



NORTHERN LIGHTS



NORTH CENTRAL REGION OF THE ASTRONOMICAL LEAGUE

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NCRAL CHAIR'S MESSAGE

Believe me when I say that I didn't expect to be writing this Chair's message! I had hoped to step down after two terms as Regional Chair due to growing health concerns. When no one was willing to stand for election despite encouraging several potential candidates I thought particularly worthy, I decided to throw my hat into the ring for the third and final time. After my current term expires in 2023, I will no longer be eligible to run for this position as the Bylaws limit a Chair to three successive terms.

I want to congratulate Bill Davidson of the Rochester Astronomy Club for being re-elected to his second term as Vice-Chair. He continues to serve as NCRAL's Regional Representative to the Astronomical League as well. Both Bill and I represent the Region on the National Council of the Astronomical League. We will have our next National Council meeting online in July.

I also want to congratulate Secretary-Treasurer Roy Gustafson for election to the second part of the current term

to which I appointed him by executive fiat when NCRAL 2020 was postponed.

Because NCRAL 2021 was cancelled, we were again unable to present our NCRAL Region Award and announce the member-recruitment mini-grant at our convention. Regardless, I'm delighted to announce that **Wayne Kuhn** of the Neville Public Museum Astronomical Society is this year's recipient. The **Champaign-Urbana Astronomical Society** will receive a \$250 mini-grant for membership recruitment. Details about these recipients and their efforts can be found further on in this issue of ***Northern Lights***. Unfortunately, there were no nominations for the newsletter editor award despite prompting on my part (I know there are several worthy candidates) and no applications for the affiliate-recruitment mini-grant.

Since the May election, I have given considerable thought about what the goals for my third and final term should be. There are five things that I'll endeavor to do over the next two years – at least tentatively: (1) create an NCRAL Messier Marathon program to complement the four [NCRAL seasonal mini-marathon programs](#) that are proving to be popular with several of our affiliates; (2) modify the current [NCRAL Convention Planning Guidelines](#) last updated in 2019 to take into account changes suggested by the COVID-19 pandemic and the impact of video-conferencing-based meetings and webinars; (3) pilot a donation system with the Astronomical League whereby donations to the AL (a 501c3 non-profit educational organization) can be channeled to NCRAL; (4) develop an NCRAL 5-Year Plan, and (5) amend the [Region's Bylaws](#) to clarify them and to, if possible, eliminate the two-tiered governance system that does not in my opinion work well. I provide more information about these tentative goals later in this issue of the newsletter.

The appearance of video conferencing (e.g., *Zoom*) has changed the landscape of amateur astronomy forever in my opinion. Later in this issue of ***Northern Lights*** you find articles by former NCRAL Vice-Chair and RAS member John Attewell as well as yours truly telling how that landscape has changed and what we must do to adapt to these changes.

I'm happy to report that the Region is coming out of the situation imposed by COVID-19. Starting with April, several Regional affiliates began hosting public viewing sessions once again, observing pandemic protocols such as mask wearing, hand washing, and social distancing. It will likely take a while

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to bring things back to where they were prior to the pandemic but come back we shall. I'm surprise how in my own club (TCAA) many new members and I have worked together recently to learn the use of Sugar Grove Observatory's Celestron CPC 11" goto telescope and my own CPC 8" goto telescope with a *SkyFi* wireless controller. I hope that this bodes well for the future.

Official Region and League events remain on hold until such time as the League leadership removes the restrictions put in placed earlier. As you will note later in this issue of *Northern Lights*, ALCon 2021 has been changed from an on-site meeting in Albuquerque, NM, to a virtual online event using *Zoom* following the second postponement of the face-to-face meeting.

I will be summarizing in considerably more detail the events of the Region in my 2020-2021 Region Report. Once it is finalized, it will be sent to the AL national office and be posted on the NCRAL website along with our [three previous Region Reports](#).

Summer will soon be upon us, and I encourage everyone to get out and observe. It's great to hear from so many of my friends across the Region who are getting out to look up. More than just about anything else, two of the greatest motivators for observing are having an observing program and an observing aid such as *SkySafari*. I use such things in tandem to optimize my viewing. I strongly encourage observers to take a look at the [TCAA Guides](#), but especially the following: [TCAA Guide #6: Have a Successful Observing Session](#) by accomplished TCAA observer Jamey Jenkins and [TCAA Guide #8: Optimizing Deep Sky Observations](#) by yours truly.

In my own club, the Twin City Amateur Astronomers, I was recently asked to make what I feel is a prudential decision. An observing couple asked if they might work together to earn the spring Messier Mini-Marathon certificate and pin. They always observe together using the same telescope; they always share views of what one has found with the other. After due consideration, I indicated from my perspective as Regional Chair that it would be permissible to work together on a seasonal mini-marathon, but only so long as they share in one certificate and pin. See the update included in this issue's article about the NCRAL seasonal Messier Mini-Marathon.

Now would be a good time to consider astronomical travel. I'm already booked for my eighth trip to South America to do some southern viewing next November/December. There is a vast array of places to go and things to do astronomically speaking, and I hope that you'll consider taking some time out to support our resources such as observatories, planetariums, and distributors.

One final thing... Don't forget to renew your affiliate or member-at-large membership with the Astronomical League. Please take the time to send in your rosters as well. It wouldn't hurt to copy me, being certain to keep the Region informed about the names of your president and ALCor, along with their email information.

Clear skies and keep looking up!

Carl J. Wenning
NCRAL Chair (2017-2023)
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NCRAL ELECTION RESULTS

Election Result: Chair

Carl J. Wenning Twin City Amateur Astronomers, (term 2021-2023).

Election Result: Vice-Chair

Bill Davidson, Rochester Astronomy Club, Vice-Chair (term 2021-2023). Bill continues as Regional Rep. to the AL.

Election Result: Secretary-Treasurer

Roy E. Gustafson, Popular Astronomy Club, (term 2020-2022).

NCRAL FINANCIAL STATEMENT SPRING 2021

~ Reported by Treasurer Roy Gustafson ~

Check #	Date	Description	Check Amount	Balance
	1-Mar-2021	Starting balance		\$8,648.26
1017	10-May-2021	Roy E. Gustafson (mini-marathon pins & shipping to recipients)	\$65.56	\$8,582.70
1018	8-Jun-2021	Champaign-Urbana Astro. Soc. (membership recruitment mini-grant)	\$250.00	\$8,332.70
	31-Jun-2021	Ending balance		\$8,332.70

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2021 NCRAL REGION AWARD

Wayne Kuhn, NPMAS

NCRAL REGION AWARD – The 2021 NCRAL Region Award goes to **Wayne Kuhn** of the Neville Public Museum Astronomical Society (NPMAS). His nomination letter starts out, “I would like to nominate [Wayne Kuhn] for the NCRAL Regional Award. This individual has enjoyed the night sky and public outreach since I have known him. He was my mentor when I bought my first real telescope in 1998 and I joined the club. As a newbie he took me under his wing and showed me how to use it along with the night sky. This individual really enjoys attending all the club functions and all outreach programs the club offers.” Those powerful words came from NCRAL past Chair Gerald Kocken of NPMAS. Gerry certainly knows both his astronomy and his amateur astronomers. These words constitute an even a more powerful recommendation.

According to Gerry’s nomination letter, Wayne has attended and helps organize public outreach school programs that include presentations, solar viewing, and night viewing at many schools. He also provides outreach at camps for bird watchers, Girl and Boy Scouts, and sidewalk astronomy programs in downtown Green Bay. He also helps with Green Bay’s *Big Event for Little Kids* and *Einstein Project* that regularly attract several thousand kids.

In addition to public outreach, Wayne is heavily involved in member education as well, having given numerous presentations to the NPMAS membership, organized numerous observing sessions, and developed, promoted, and presented several astronomy courses. He has held numerous leadership roles within NPMAS including the following: Board of Directors, President, Vice President, Secretary, and Treasurer. He helped with his club’s many Astronomy Day events, and has served as public observing chairperson, field trip coordinator, public outreach chair, club property chair, and has served on a welcome committee greeting new members and distributing welcome packets. He has on occasion acted as his club’s media liaison person for astronomical events the media, (newspaper, radio, TV) have contacted his for information.

Wayne is a very regular observer and has regularly attended Wisconsin Observers Weekend, Astrofest, Prairie Sky Party, Northwoods Starfest, Sheboygan Swap and Sell, and Northern Skies Sky Party over the years. As Gerry once again noted about Wayne, “His never ending energy and time devoted to public outreach and education is a great example of his commitment to astronomy education and has proven he certainly deserves this award.” This is what makes Wayne Kuhn of the Neville Public Museum Astronomical Society so worthy of this year’s NCRAL Region Award!



Wayne Kuhn, NPMAS, 2021 NCRAL Region Award Recipient

NCRAL NEWSLETTER EDITOR AWARD – There was no newsletter editor award this year as there was neither application nor nomination despite encouragement in specific cases by the Regional Chair.

NCRAL Affiliate-Recruitment Mini-Grant: There were no applications for this year’s mini-grant for affiliate recruitment. This is perhaps understandable considering the recent pandemic, but we look forward to having applications for this mini-grant next year, and reports about the current mini-grant (Twin City Amateur Astronomers working with the Illinois State University Astronomy Club and the ISU Planetarium) later this year if they can overcome the limitations resulting from the pandemic.

This year’s Region Award plaque (along with last year’s plaque going to Lee Green of the Twin City Amateur Astronomers) will be presented at NCRAL 2022. The certificate for the 2020 Newsletter Editor Award will similarly be presented at NCRAL 2022 to Edith Auchter of the Northwest Suburban Astronomers. Similarly, the 2021 mini-grant check will soon be sent to this year’s recipient, the Champaign-Urbana Astronomical Society.

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2021 NCRAL MEMBERSHIP RECRUITMENT MINI-GRANT

Champaign-Urbana Astronomical Society

Pursuant to the requirements for transparency in all NCRAL approved mini grants, the Champaign-Urbana Astronomical Society (recipients of \$250) provided the following information about their grant:

Please describe the proposed recruitment and retention activities.

We plan to spread the word about the CU Astronomical Society and recruit new members (including younger members and those from underrepresented groups) by creating a flyer to be distributed initially through boosted social media posts and eventually through open house participants and passers-by to our farmer's market exhibit. We would also display the flier at the planetarium.

Please explain the extent to which these activities would be replicable by other NCRAL affiliates.

We would happily share the flier with interested groups and detail how it was used. We could submit the plan and results to the quarterly NCRAL newsletter.

Describe benchmark and baseline data that you will use to determine if the proposed activities are successful.

Given COVID protocols, we would attempt to drive people to our web site where their participation could be logged. We also allow guests to attend our Zoom meetings. We would document the number of guests and of course new memberships and attempt to ascertain how they became aware of the group. It is our hope to see a spike in memberships. Our memberships are prorated to January 1 so we could also advertise that, joining in June, they'd be getting a membership essentially for half price.

Please explain in detail how you expect the mini-grant's funds to be spent given restriction to contractual and commodity expenses.

The club has a membership brochure that includes a lot of words. The idea discussed at one of our monthly meetings is to develop a visual flier that would drive people to our web site. The flier would detail the benefits of membership, the observing facilities maintained by the club, plus include full-color images, including appropriate images of kids using our facilities. The idea is to hand parties two fliers, one for them and one to post somewhere or to pass to someone else. Ideally, we would like to get these into the schools



once they fully re-open, including the Parkland College astronomy classroom. The CU Astronomical Society would cover developing the flier with mini-grant funds used for duplication.

CUAS would cover time spent on the flier, acquiring permissions for images, and cover any expenses related to boosted posts on social media. Though we currently do not have advertising rates, the club would strongly consider including a smaller version of the flier on the following website (<https://www.chambanamoms.com>) directed at families and Smile Politely (<http://smilepolitely.com>), a local culture online magazine. CUAS would cover these costs.

Feel free to address any of the other factors that you feel should be considered by proposal reviews that relate to the merit of the proposal (feasibility of activities, likelihood of success, and potential impact on the Region).

As with many clubs in the region, CUAS is a diverse group of members "of advanced age." An influx of younger talent and younger ideas will help to steer the club in the appropriate direction. As has been pointed out in the NCRAL newsletter, younger minds aren't being drawn to clubs or hobbies, but the stars and planets are still appealing and events like Perseverance on Mars still draw interest. We believe we must try to instill the same sense of wonder that we all experienced in looking at a clear, dark sky.

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NCRAL SEASONAL MESSIER MINI-MARATHON AWARDS – Winter-Spring 2021

The following individuals have qualified for NCRAL's **Winter and Spring Messier Mini-Marathon** certificate and pin. The letter "U" indicates unassisted. Congratulations to our successful observers!

Winter



- #8. Devanand Chatrathi, TCAA, Assisted
- #9. Carl J. Wenning, TCAA, Assisted
- #10. Kevin Habegger, LCAAS, Assisted
- #11. Tim Stone, TCAA, Assisted

Spring



- #10. Kevin Habegger, LCAAS, Assisted
- #11. Tim Stone, TCAA, Assisted

NOTEWORTHY!

The following NCRAL members were recognized in the June 2021 issue of the Astronomical League's **Reflector** magazine for having completed observing programs. Congratulations to all for their many and varied successes!

Asteroid Observing Program:

Gerard Jones, Regular, Minnesota Astronomical Society

Binocular Messier Observing Program:

Stephen Pavela, La Crosse Area Astronomical Society

Double Star Observing Program:

Stephen Pavela, La Crosse Area Astronomical Society

Library Telescope Award:

Gerard Jones, Regular, Minnesota Astronomical Society

Mars Observing Program:

Dick Francini, Neville Public Museum Astronomical Society

Open Cluster Observing Program:

Lisa Wentzel, Basic, Twin City Amateur Astronomers

Outreach Observing Program:

John Zimitsch, O, S, Minnesota Astronomical Society

Great Conjunction AL Observing Challenge

Kevin Carr, Minnesota Astronomical Society

Jill Mayes, Twin City Amateur Astronomers

Jeffery S. Moorhouse, La Crosse Area Astronomical Society

Jean Napp, Iowa County Astronomers

Doug Slauson, Cedar Amateur Astronomers

OBSERVING PROGRAM POINTERS

by Carl Wenning, Twin City Amateur Astronomers

In my role as TCAA's Observing Programs Chair, I'm doing my best to get our club members out under the stars for observing sessions. I've had considerable success, and I want to share some ideas with the Region.

Several things that are most evident to me from these observing sessions is that there is a lot of enthusiasm for viewing, that new members will turn out when *invited, mentored, and encouraged*, and that the best observing sessions are those at which observers have some sort of viewing program. I've recently seen several new members earn their "just for fun" NCRAL seasonal Messier Mini-Marathon certificates and pins. Several of our long-time members have also recently completed these programs.

I'd once again like to point out resources for observing sessions and say a few words about each.

- ★ **Observing Programs** – There is a plethora of Astronomical League observing programs from which to choose. Look at the programs – from beginner to advanced and for all types of observing equipment – available through the Astronomical League by going to the Astronomical League website's [observing programs page](#).
- ★ **Observing Guides** – I heartily recommend the [TCAA Guides](#). There are ten such guides written by experienced club members. On the TCAA website you can find electronic versions of the 59-page book used in our

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[Introduction to Amateur Astronomy](#) course, [Astronomy as a Hobby, Having a Successful Observing Session, Optimizing Observations of Deep Sky Objects](#), and more.

- ★ **Observing Aids** – I encourage members to pick up some sort of electronic guide for use with cell phones and tablets. These are amazing observing aids and have improved the quality of my personal observing sessions immensely over the years. I strongly encourage [SkySafari](#), [Starry Night](#), or similar.
- ★ **Observing Equipment** – Don't hesitate to take advantage of your club's observing equipment, but especially "goto" telescopes. Several of my club's new members have qualified in the use of our exceptional Celestron CPC 11"

instrument at Sugar Grove Observatory over the past few months, and each has received an observatory key so they can observe anytime they want.

- ★ **Observing Support** – Don't forget that most astronomy clubs have two main goals: member education and public outreach. Please take advantage of the free training some of your club's members are all too happy to provide by contacting them. Also, every affiliate of NCRAL should consider offering an *Introduction to Amateur Astronomy* course that proved to be an effective new-member incubator during 2019 and described in the pages of this newsletter, back issues of which are available through the NCRAL [Northern Lights newsletter archive](#).

GOALS FOR MY THIRD AND FINAL TERM AS NCRAL CHAIR

~ by Carl J. Wenning, NCRAL Chair (2017-2023) ~

With my "surprise" re-election as Chair of NCRAL for a third and final term, I've set for myself five goals to which I doubt any affiliate or member would object. I noted these goals in my Summer 2021 Chair's Message as follows: (1) create an Annual Messier Marathon Certificate to parallel the four seasonal certificates that are proving to be successful in at least a few affiliates; (2) modify the current NCRAL convention planning guidelines to take into account changes suggested by the COVID-19 pandemic and the major consequences of Zoom-based meetings; (3) pilot a donation system with the Astronomical League whereby donations to the AL (a 501c3 non-profit educational organization) can be channeled to the Region; (4) develop an NCRAL 5-year plan, and (5) amend the Region's Bylaws to clarify them and to, if possible, eliminate the two-tiered governance system that does not in my opinion work well. In the following paragraphs, I have a few things to say about each of these.

ANNUAL MESSIER MARATHON CERTIFICATE – NCRAL's seasonal Messier Mini-Marathon has been a limited but growing success, and more and more observers are taking advantage of it. In my own club, several new members had gleefully completed this observing program after a short period of training on a goto telescope. (For instance, see my friend and fellow TCAA member Sunil Chebulo's [blog post](#).) Such new observers are now highly motivated to complete more such programs. While there are many observing programs available through the Astronomical League that can be used to show one's observing prowess, NCRAL's seasonal Messier mini-marathons are "just for fun." They permit the use of goto telescopes and require little more than making observations and recording times on a form. (Notes can be added if desired.) These programs serve as a great introductions to the joys of amateur astronomy. (See my

article [The Joys of Amateur Astronomy](#), [Northern Lights](#), Summer 2020. Several members of Regional affiliates who have completed all four mini-marathons have asked me for a full-blown NCRAL Annual Messier Marathon observing program of similar form. It

is my intention to draft a set of guidelines for such a program where all 110 M-objects must be observed on a single dusk-to-dawn night. Again, if approved, this will be associated with a certificate and pin that will cost the Region very little, but will be a lot of fun, and more of a challenge. This observing program can only be accomplished in early spring (at other times of year several Messier objects are lost in the glare of the sun), so there is plenty of time to get this program set up and running.



NCRAL Chair Carl Wenning

CONVENTION PLANNING GUIDELINES – I firmly believe that the COVID-19 pandemic has changed the nature of NCRAL conventions forever. The now-common use of video conferencing applications such as *Zoom* had made me question if future Regional conventions can any longer be both sustainable and successful. It seems that one of the main reason for attending conventions – seeing, listening to, and interacting with speakers – might be going out of vogue. Yes, these speakers will always be of interest, but why travel to far away locations at considerable cost to see convention speakers that can now be seen, heard, and interacted with free of charge from the comfort of one's home using a

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computer? (See my follow-up article where I address this concern in some detail.)

I seriously believe that the Region must consider this technological “threat” to future conventions. How must NCRAL conventions change, what new emphases must come into play, if they are to remain viable as revenue-generating events for the Region? Without financially successful Regional conventions, the Region will have to find new revenue streams if we are to continue offering and even grow our benefits of membership. As chair of the NCRAL 2023 convention for the Twin City Amateur Astronomers, I’m already thinking about how things might change in response to this threat. Remember the old saying, “Adapt or die.” I do think that’s the way we must view Regional conventions. I’ll be looking at “lessons learned” over the next two years as I work to revise the [Convention Planning Guidelines](#) found on the NCRAL website.

PILOTING A DONATION SYSTEM – One of my post-retirement activities is working for a local non-profit radio station where I serve as both Chief Financial Officer and Director of Development. The latter title means mostly one thing – fundraising. I’d like to bring my skills to the aid of NCRAL and develop avenues for charitable giving. NCRAL is an affiliate of the Astronomical League. The AL has a 501(c)3 status but the Region as a separate entity does not. Donations given directly to the Region are not tax-deductible.

I’ve been working with NCRAL Secretary-Treasurer Roy Gustafson and AL Treasurer Bill Dillion recently to set up an avenue for tax-deductible donations made to the AL to be channeled to our Region. Our banking account is aligned with the AL in a particular way making this possible. After a successful trial donation, I will begin working on ways to encourage donations to the Region via the AL.

DEVELOPING AN NCRAL 5-YEAR PLAN – A ship without a rudder rarely makes port. Rather, it is merely cast about by the wind and waves. So it is with any organization. Though my third and final two-year term as Regional Chair will end in May 2023, it’s still important to set course for distant horizons.

In the next few months, I’ll be asking NCRAL members to submit ideas about where we as a Region should be setting our sights. Where should we be in 5 years? What shall we have accomplished? Fundamental to this question is how the Region might be more beneficial to its affiliates.

Right now, I perceive that “the Region” is something rarely thought about by most members. For instance, we have had a good newsletter for the past five years and yet only about 475 out of 1,900 members (25%) are subscribed

through the Region’s email service to receive it. Similarly, very few of the Regional Council members respond to my requests to involve themselves to participate in official Region voting-related activities.

I honestly believe that there must be a grassroots effect to improve the Region. If we wait on our Astronomical League administrators, such a thing will likely never happen. My experience in this area over the past four years as Region Chair has led me to the next goal.

AMENDING THE REGION’S BYLAWS – Regional Vice Chair and Representative to the AL Bill Davidson and I have been concerned about the Region’s Bylaws for the last several years. They are a relic of year’s past and need to be revised. When I first attended NCRAL Regional Conventions, I was quite surprised by the two business meetings we had – first a Regional Council meeting then a general business meeting. The Regional Council is a combination of Executive Officers and Presidents of our Region’s affiliates.

Based on four years of working within this structure, I can say that it does not work effectively even with the use of email (let alone older approaches such as post cards, letters, and phone calls “envisioned” by the writers of the Bylaws). Even with the use of email, this system is dysfunctional. You might remember how, during my first term as Chair starting in 2017, I tried to employ the Regional Council during the “off season” between Regional conventions. Despite having nearly 50 Executive Council members, I rarely got responses from more than 3-4 individuals. Additionally, in the recent officer election very few of the 96 eligible electors voted. Both Bill Davidson and I will attend the online AL national council meeting in July. Among the many topics is the dysfunctionality of several of the AL’s Regions. (Fortunately, NCRAL is seen by the national leadership as very active!) We will be certain to bring up the topic of how existing Bylaws are putting manacles on the hands of the existing Regional leadership and will seek guidance in making changes. Perhaps even the national AL bylaws need change. National bylaws serve as the basis for most if not all Regions’ bylaws. Several Regions have become dysfunctional in recent years and what role bylaws have played in these affairs needs to be examined.

So, there you have it – five goals I have set for myself and the North Central Region for the remainder of my third and final term as Regional Chair. Let me know what you think about these goals by emailing your questions and/or concerns to me at carlwennen@gmail.com. I look forward to hearing from you. Don’t hesitate to volunteer should you want to become involved in any of these efforts.

What is Zoom Bombing and How Can You Prevent It?

~ by John Attewell, Rochester Astronomy Club, Rochester, MN ~

Whether you are a business traveler, a work-from-home telecommuter, or work within a large institution, video conferencing has been increasing over the past ten years and has become an important business tool. In the past year, COVID has made video conferencing an important part of our personal lives too. Not only is it a safe way for government and commercial users to communicate while on lockdown, but it is also a simple way to social distance yet stay in touch with family and friends or have a virtual happy hour, coffee break, or club meeting. But, like any other public forum, it is possible to have uninvited individuals disrupt the event. Unfortunately, in the virtual world, it is very easy for vandals to maintain their anonymity. Fortunately, there are methods we can use to prevent their intrusion on our lives.

When the COVID lockdowns began in late March of 2020, the activities of the Rochester Astronomy Club came to an abrupt halt. Our Facebook page and club website were still functioning, but they were poor substitutes for face-to-face discussions or presentations. Email was used to communicate announcements but, again, conducting a coherent discussion or presenting a program using email was impossible. In the late Fall, our webmaster decided to use an application called "Zoom" (<https://zoom.us/download>) for an on-line meeting. Everyone could easily download it and participate for free so not much would be lost if it didn't work. We did have a slight advantage because our host had a paid subscription, so we were able to have a meeting that was longer than 40 minutes. It was so great seeing each other again and discussing all the preceding sky-events, equipment updates, and playful banter that comes with familiar comradery. Zoom worked so well the first time we used it we decided to reinstitute our monthly meetings.

Unfortunately, our comfort with the technology and enthusiasm of our fellowship caused us to drop our guard. While there are many ways to secure these meetings (see below) we decided to simply email a hyperlink to each club member. We didn't realize at the time, that this simple link had an "embedded" password and address to our meeting. This link could also be shared with an unlimited number of people. Innocently enough, we posted the link on our club web page and sent the link to a local 8th grade science teacher. Now our story takes a dark turn.

At the appointed time, our astronomy club met on Zoom. We had about a dozen long-term members and a handful of new folks who found the link on our web page but had

otherwise not met us before. The club President began with an introduction and welcomed the new guests. He then began reviewing the Treasurer's report when, suddenly, dozens of other individuals began joining the meeting. At first, we thought it must be students from the 8th grade science class and greeted them accordingly. But then, this "gang" of uninvited participants began a "Zoom Bomb." They used obscene and profane references; insults; sexist, racist, and homophobic slurs; and posted lurid images. If you are unfamiliar with this kind of misuse of the internet, it is called a "troll attack." Trolls indeed!

Many trolls are members of organized groups called "troll farms" or "troll factories." Professional trolls are hired by nefarious governments as part of "keyboard armies" whose sole purpose is to spread propaganda or attack the critics of their sponsoring government. They generally target social media platforms like Facebook, Twitter, Instagram, and sometimes email.

But this isn't the kind of troll we were dealing with here. These non-professional trolls have the intention to aggressively disrupt, prank, harass, and intimidate in order to elicit an emotional response or humiliate their unsuspecting victims, like a playground bully or football hooligan. But, unlike the bully or hooligan, a troll accomplishes this with the "cloak of invisibility" offered by the internet. In my research, I've discovered that there are many different types of trolls and that they have complex motivations. But generally, trolls are bored or anti-social individuals. A recent study¹ that interviewed 22 self-confessed trolls found three key motivations: personal enjoyment, revenge, and thrill-seeking. Other authors say they can be motivated by envy or jealousy and that creating social mayhem behind the anonymity of the internet can be their way of expressing frustration with failures in their personal life. Whatever the reasons, the isolation of COVID has brought the number of internet trolls to unprecedented numbers (to say nothing about the increased use of social networking applications like Zoom).

But how and why did so many trolls show up at our isolated astronomy meeting? Trolls prowl the internet using web-scraping tools, looking for public links like the one we posted on our club webpage. Web-scrappers are special computer programs that automatically search specific websites or large chunks of the internet for specific key words, expressions, or formats and then extracts information from an identified source. Once a target is identified, the trolls

¹ Christine Cook; Juliette Schaafsma; Marjolijn Antheunis. "Under the bridge: An in-depth examination of online trolling

in the gaming context." 2018. *New Media & Society*. Vol. 20(9) 3323–3340.

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then organized an attack by other members of their troll farm. Within these communities, members gain “rank” for participating in a troll attack. They gain even greater rank if they can find a victim or lead an attack. Climbing up the ranks of their troll army gives them status among their peers.

If the attack occurs on a video conference it is known as a “Zoom Bomb.” Let’s learn about some ways to prevent “Zoom-bombing” from happening to you.

Video conferencing can be done from any device that has an operating system, a camera, and microphone. Generally, computers and cell phones are used but other devices like tablets or smart watches can be used as well. Video conferencing from a cell phone is sometimes referred to as a “video call” but the technology is the same as a video conference.

There are many software applications that do video conferencing. Some examples are Cisco WebEx, Microsoft Teams, Skype, Google Hangouts, Jabber, GoToMeeting, etc. WebEx and Teams are the most popular business applications. An application that recently gained popularity for personal use is called “Zoom.” Zoom offers annual licenses for small, medium, and large business users but it is also free for personal and small groups to use. The capabilities are limited in the free version, but it does have some excellent features. It can be used for one-on-one meetings for any length of time or for group meetings for up to 40 minutes (a group being defined as less than 100 participants). It is also quite easy to host and join a Zoom meeting. To host a Zoom meeting or to join a meeting as a participant, you can download the Zoom application from the internet for whatever type of device you are using (Windows, Mac, Linux, iPad, iPhone, or Android).

All Zoom meeting participants can control certain features like whether their video is visible to other participants, or their audio feed is muted or not. But the individual who functions as the host has more tools that are necessary to control the entire meeting. The host can remove anyone from a meeting and can also enable or disable a participant’s ability to share their content on-screen or in the chat feature (a “chat box” a.k.a. “chat room” is a screen area where participants can communicate silently with other members through text-based messages).

The host can control other screen features as well as add levels of security to the meeting. Security features available in the free version of Zoom:

- The best security feature built into Zoom is the “waiting room.” When a participant joins a meeting that has the waiting room option activated, they don’t go directly into the meeting. Rather, they are placed in a waiting room. Participants in the waiting room cannot see or interact with each other. The host is notified and only the host can remove them entirely or admit them to the actual meeting. Enabling the waiting room automatically disables the setting for allowing participants to join before host. If you have a paid subscription of Zoom, there are further options like settings that allow pre-authorized users to go directly to the meeting while guests are funneled to the waiting room.
- There is also the ability to send a user a “single-serve” meeting ID that is generated randomly but cannot be shared.
- The meeting also can be password protected. However, as we have seen, this is not always secure if users share the password.

In the Zoom paid-subscription the host can:

- Set up a meeting that requires participants to register before they enter the meeting. This shows the host the email of person trying to join the event. This is particularly useful to planning your meeting, gauging attendance, and communicating with members after the meeting.
- If you don’t want to use a waiting room, there is an option to only allow authenticated users to join. This setting restricts attendance to only those listed as part of your organization, but it requires up-to-date lists that may or may not be easy to curate.

This unfortunate event has prompted my club to updating our member roster and email distribution list. We have decided to email invitations to that restricted audience but use a waiting room as a filter just in case those emails are compromised. We also decided not to post the login link on our webpage or Facebook account, so we won’t be able to include interested guests. This will hinder our recruiting efforts in the near future, but COVID will soon be over and we can resume that activity at the appropriate time.

It is essential to keep our astronomy community together and Zoom is a fun and useful tool that can accomplish that goal. With a few precautions, I hope you too can benefit from this technology.

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Video Conferencing and Amateur Astronomy

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

One of the results of the COVID-19 pandemic has been the explosive use of video conferencing. *Zoom*, for instance, is an application that readily permits both video and audio conferencing including screen sharing and breakout rooms as well as webinars. There are sometimes unexpected negative consequences to the use of conferencing as John Attewell pointed out in the above article.

Video conferencing of one form or another is increasingly used for participating in club and board meetings, and everyday chats among amateur astronomers, friends, and family. This is good, very good! Like others, I'm now making regular use of this mode of communication. In early May, I held a video chat with a professional astronomer in Brazil that I have known since meeting him in Bolivia in 1994. A week before that I chatted with a mutual friend, also in Brazil, as we plan a visit to Rome so that our families can meet up in the Eternal City next year. During mid-May, *I even participated in a Zoom meeting with astronauts aboard the International Space Station!*

There is no question that this new technology has and will have an amazing positive impact on amateur astronomy. Those formerly unable to attend meetings or conventions can now attend from a computer, tablet, or cell phone without cost and having to leave the comfort of their homes. Another impact is that clubs are now able to bring in speakers from around the globe for things as common as a club's monthly meeting. I've attended several Regional astronomy club meetings recently using *Zoom*. I've seen speakers from observatories and other research centers across the USA and Europe give talks. Of greater consequence is seeing speakers from as far away as Hawaii, New Zealand, and India. While these are indeed wonderful things, I'm beginning to wonder if there isn't a "dark side" to such video conferencing and webinars. Allow me to explain.

I'm chairing NCRAL 2023 for the Twin City Amateur Astronomers and am giving considerable thought to the effect of video conferencing on the convention. I'm now doing everything within reason to develop a program that will draw amateur astronomers from across the Region. We have asked ourselves repeatedly what we might include in order to draw a reasonable crowd of 80 to 100 to the convention. (We'd certainly not want to utilize *Zoom*, or there would be no reason to attend the convention!) We've decided not to hold our convention in Bloomington-Normal, Illinois, but have moved it 65 miles north near Interstate 80 and Starved Rock State Park. This will place the convention closer to the

population center of the Region. We've scheduled Grand Bear Lodge just south of Utica, Illinois, for its great venue and outdoor setting to make it more alluring. That's fine and good, but what will be the big draw to the NCRAL convention? Historically there are two things that constitute a "draw" for a convention: speakers and activities.

Does it make sense any longer to bring in speakers from around the globe (often at very considerable expense) when they can just as easily be seen, heard, and interacted with by someone sitting in front of their computer at home? I think not. If this truly is the case, then half the reason for attending a convention seems to have evaporated.

When I think back to all the conventions I have attended over the years, I often harken to those times when I had the best social interactions. Those afternoons chatting in the hallway, those evening discussions in the bar, and those late nights outside looking up at the stars with a group of like-minded individuals. These are the things that I most often remember when coming home from an NCRAL convention.

As I've noted in this newsletter before, communication is the basis of camaraderie. If you want to develop camaraderie among the members of our Region, then we must provide opportunities for and promote interpersonal communication. (See [The State of Our Astronomy Clubs: Healthy or At-risk?](#) in the Autumn 2020 issue of *Northern Lights*.) Video conferencing (especially one-way webinars) just can't provide the face-to-face interactions so necessary to the development and promotion of camaraderie.

Perhaps the best thing to do to make NCRAL conventions more appealing is to provide great venues, special events, and social activities. This is the avenue that we have chosen to employ during NCRAL 2023. Yes, we will have invited speakers, but more of the "homegrown" types. We won't be going far afield bring in expensive speakers. No, our club and area within Central Illinois has plenty of homegrown expertise that we'd like to share with others.

Additionally, there will be activities. We are thinking about a Friday night social with snacks and an open bar (free alcoholic drinks will be limited with the use of a ticketing system, sorry), a swap meet, a white elephant table, demonstrations, workshops, an improvised play, and more. If you have ideas about anything you'd like to see at NCRAL 2023 to make it more appealing, please let me know by writing me at carlwenning@gmail.com and I will see what I can do about it.

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PIKE RIVER STARFEST JULY 7-11

The Pike River Starfest is entering its 7th year. This starfest is in northern Wisconsin. It boasts the darkest skies at any starfest in the State of Wisconsin. Last year, a reading of 21.85 on the Sky Quality Meter at 11:30 PM two nights in a row. The starfest will take place on Wednesday night July 7th thru Sunday morning July 11th. The site is located at N14720 US Hwy 141, Amberg, Wisconsin.

The site can accommodate approximate 30 camp sites. Tents and mobile homes are welcome. The site will have portable toilets on site. There is no power to the sites themselves; however, there is power at the building for charging batteries and if a person chooses to camp next to the building, power will be supplied. There will be three picnic tables available. Water and soap for doing dishes, clean water for rinsing along with clean towels will be supplied. A camp stove and grill also will be available. Midnight snacks will be served like Northwoods Starfest. In the event of cloudy weather, a fire pit for a bonfire is available. In event of rain, we have a conference room with a full library of astronomy books available and TV with a DVD player. The conference room will also be used for serving midnight snacks.



During the days, hiking, tubing on the Pike River, trout fishing on the Pike River (Class a Trout stream) golf, white water rafting on the Menominee River or Peshtigo River within in a 35-minute drive, Iron Mountain Iron Mine in Norway, which is a 25-minute drive, or tour any or all of Marinette County's 15 waterfalls. Dave's Falls is within walking distance of the camp sites, ½ mile. There is a daily fee charged to enter county parks, which allows you to visit as many parks as you want in one day. There are also several history museums in which you can visit in the area. There are two hotels in the area, 9 miles south in Wausaukee and 9 miles north in Pembine. Showers are available 2 blocks north at the Italian Inn for \$5.00.

Registration is \$10.00 per night per person. Pre-registration is required. Fees will not be returned in event of weather or cancellation. When campsites are filled registration will be halted. First come, first served. Registration is due by June 15th. After that dues will increase to \$15.00 per night per person until June 30th. Please indicate what nights you plan on attending and how many individuals in your party. Registration fees should be sent to Gerry Kocken, PO Box 142, Amberg, Wisconsin 54102. For additional information or questions, please contact me at gerryk@kockenwi.com or phone (920) 676-6363.

Standard rules for star parties will be enforced.

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ASTRONOMICAL LEAGUE 75TH ANNIVERSARY

The beginning of the Astronomical League dates to 1939 when members of eleven amateur astronomical societies met at the American Museum of Natural History in New York City. Similar meetings followed in Pittsburgh, 1940, Washington D.C., 1941, and Detroit, 1946.

At the last meeting, final plans laid the foundation for a permanent organization constituting a nationwide federation of societies. The next convention took place in Philadelphia, July 4, 1947, where the federation came into being with the adoption of bylaws, the election of officers, and the name *Astronomical League* selected. Shortly thereafter, the entity was incorporated as a non-profit organization.



ALCon 2021 VIRTUAL

Because of the uncertainty caused by the pandemic, the Astronomical League will not hold an in-person ALCon this year. In late July or early August, ALCon 2021 will be held virtually, featuring speaker presentations, as well as the annual Youth and Recognition award presentations.

Complete details are still being developed and will be announced at a date in the not too distant future.

The Albuquerque Astronomical Society (TAAS) is now scheduled to host ALCon 2022, instead of 2021.

We are sorry for any inconvenience that this may cause.

FUTURE NCRAL CONVENTIONS

During NCRAL's annual business meeting the Region receives offers for hosting upcoming conventions. The following affiliates have agreed to hosting future conventions. We are in need for hosts for 2024 beyond. It's never too early to start planning to host.

- 2022 Port Washington, WI: Northern Cross Science Foundation (dates TBD)
- 2023 Bloomington-Normal, IL: Twin City Amateur Astronomers (May 5-6, Grand Bear Resort, Utica, IL)
- 2024 and Beyond: **OPEN**

If your club has never hosted an NCRAL Regional convention, please consider doing so in 2024 or later. While hosting a Regional convention is a considerable amount of work, it can be quite rewarding – even fun. It provides an opportunity to

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showcase your group's facilities and accomplishments, build club camaraderie, and to get to personally know interesting guest speakers. You can also use such an event to grow your club's membership.

Remember, NCRAL now has its own convention planning guide. To download the planning guide, visit the following URL: <https://ncral.wordpress.com/conventions/>. Look for the link at the bottom of the page.

Please contact the NCRAL Chair at carlwenning@gmail.com should you have any questions or wish to toss your affiliate's hat into the ring for hosting a future NCRAL convention.

SUMMER 2021 PLANET HIGHLIGHTS

~ by Jeffrey L. Hunt ~

The summer of 2021 provides a consistent view of four planets, elusive Mercury shuttling from morning sky to evening sky, and a challenging view of the five bright planets during August.

Morning Sky

Bright **Jupiter** and **Saturn** have been staples in the morning sky for the past few months. They have been slowly exhibiting their motion against the background stars. Jupiter is among the dim stars of Aquarius. On June 21, the planet stops moving eastward along the ecliptic and begins to retrograde. On July 1, the Jovian Giant rises about an hour before midnight (in Chicago). Make appropriate adjustments in longitude and latitude for your observations. By month's end, it rises about two hours earlier, although, after July 10, it rises before the end of evening twilight. Jupiter reaches opposition on August 19, 17 days after Saturn's show at opposition. Look for the moon near Jupiter on June 28 and 29, July 26, and August 22.

Spectacular **Saturn** rises about an hour before Jupiter. The Ringed Wonder is retrograding in Capricornus, west of Theta Capricorni (θ Cap, $m = 4.1$). It began its westward movement during late May. Through a telescope, the planet's rings are inclined 17° . By June 25, Saturn rises before the end of evening twilight. Saturn reaches opposition on August 2. While the planet does not rise until later during early summer, be sure your public star party has a telescope pointed toward this wondrous planet. Viewing the Ringed Wonder creates life-long memories for your visitors. The moon is near Saturn on June 27, July 24, and August 21.

Mercury ($m = 0.4$) reaches greatest elongation (21.5°) on July 4, rising 77 minutes before sunrise. This is about the time of Nautical Twilight. Wait until the morning of July 8 when the old moon is 4.5° to the left of Mercury; the planet is brighter ($m = -0.1$); and the elusive world rises 83 minutes before sunrise. On this morning, Mercury is 0.4° to the lower left of Zeta Tauri (ζ Tau, $m = 3.0$). You will likely need an optical assist from a binocular or low-power eyepiece to see the dimmer star. The planet continues to brighten as its apparition ends. Mercury reaches superior conjunction and heads toward an evening appearance.

After superior conjunction on August 1, the planet moves into the western sky for its most unfavorable evening apparition of the year.

Planet-Planet Oppositions

Typically, when we think of an opposition, it is an outer planet with the sun. Planet-planet oppositions occur and can signal the beginning of an interval when the two planets are in the sky together, or the last time the pair is in the sky at the same time.

When an outer planet is at opposition with the sun, the planet rises at sunset and sets at sunrise. For a planet-planet opposition, one planet sets and the other rises, but the other end of this opposition is not visible because it occurs during the daytime.

Four interesting planet-planet oppositions occur during the summer months among Jupiter, Saturn, Mars and Venus. About a week or so after each opposition, the participating planets are in the sky at the same time. Venus, Jupiter and Saturn are in the sky until Venus leaves during early 2022. Dimming Mars is slowly slipping into bright twilight. By the end of July, the Red Planet is setting before Nautical Twilight. The oppositions: July 1, Saturn-Mars; July 6, Venus-Saturn; July 21, Venus-Jupiter; July 29, Jupiter-Mars.

Evening Sky

Since its superior conjunction on March 26, **Venus** has been slowly crawling into the evening sky, peeking through bright twilight and setting later each evening. The planet is in an eastward foot race with **Mars**. For about a month beginning June 15, Venus moves over 35° eastward in ecliptic longitude, while Mars only moves about half that distance. At mid-June, Venus is 15.1° west of the Red Planet. Venus passes Mars on July 12, and then the gap widens. It reaches Regulus on July 21 and Spica on September 5. Through a telescope, Venus is a small evening gibbous that is 82% illuminated at the end of July and 73% at the end of August. Venus does not set after the end of evening twilight until mid-September as it appears farther southward in the evening sky. The moon appears near Venus on July 12, August 10, and September 9.

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While unfavorably placed, look for Mars in the Beehive star cluster on June 23, followed by Venus passing the cluster on July 2.

The Red Planet passes Regulus on July 29 in a challenging observation. Mars continues its slow slide into evening twilight, setting at Civil Twilight on September 6. It reaches its solar conjunction on October 7. The moon is nearby on July 12 and August 9.

Mercury moves into the evening sky for an unfavorable apparition during August. It reaches its evening greatest elongation (26.8°) on September 13, although its maximum setting time interval is only 49 minutes after sunset during late August and early September. On August 18, Mercury (m = -0.5) has a close conjunction (0.1°) with Mars. The planets are only a few degrees above the western horizon, about 7° north of the west direction point at 25 minutes after sundown. On this evening, the five bright planets are in the sky simultaneously along with the moon, although this observation is difficult. Saturn is between the gibbous moon and Jupiter that is above the southeastern horizon. On the next evening, Saturn is easier to find in the same binocular field as the moon, although Mercury and Mars are farther apart. The next opportunity to see the five bright planets is in the morning during June 2022. The August 18 conjunction

ranks the 25th closest on a list of 30 spanning 2013-2039, compiled by Jean Meeus. Mercury passes closer to Mars on August 23, 2032, the third closest conjunction during the interval – according to Meeus.

The 2032 conjunction has a gap that is much less than 0.1°. By the time the conjunction is visible in the Americas, Mercury has moved 0.3° away from the Red Planet. Before the 2032 event, 18 other Mercury-Mars conjunctions occur; one-third of them are too close to the sun to be seen with conventional observing techniques.

Other Notable Events

- June 20 – Summer Solstice.
- July 5 – Earth at Aphelion.
- June 26 – Double shadow transit on Jupiter (begins shortly after midnight)
- July 17 – Pluto at opposition with the sun.
- August 12 – Perseid meteor shower peak. The moon is waxing crescent, setting 165 minutes after sunset on August 11.
- September 14 – Neptune at opposition.
- September 20 – Harvest Moon
- September 22 – Autumnal Equinox

NCRAL SEASONAL MESSIER MINI-MARATHON OBSERVING PROGRAM

The NCRAL Seasonal Messier Mini-Marathon program is intended to serve as motivation to get NCRAL-affiliated members out under the stars to observe. The program permits the use of goto telescopes to find objects and, as such, the program must not be considered proof of observing prowess. The Astronomical League's Messier observing program serves that purpose. Still, NCRAL observing certificates include the words "assisted" or "unassisted." Certificates and pins are now being distributed on the equinoxes and solstices along with ***Northern Lights*** by the program administrator. NCRAL Secretary-Treasurer Roy Gustafson is now serving as program administrator. Please send observing records to Roy at astroroy46@gmail.com.

Up-to-date details about the Region's four observing program and helpful observing record sheets can now be found on the NCRAL website: <https://ncral.wordpress.com/awards/>. Below are the seasonal observing lists followed by some helpful observing notes.



Autumn: M55, M69, M70, M75, M11, M26, M56, M57, M71, M27, M29, M39, M2, M72, M73, M15, M30, M52, M103, M31, M32, M110, M33, M74, M77, M34, and M76. (27 objects)



Winter: M1, M45, M36, M37, M38, M42, M43, M78, M79, M35, M41, M50, M46, M47, M93, M48, M44, M67, M40, M81, M82, M97, M101, M108, M109, M65, M66. (27 objects)



Spring: M95, M96, M105, M53, M64, M85, M88, M91, M98, M99, M100, M49, M58, M59, M60, M61, M84, M86, M87, M89, M90, M104, M3, M51, M63, M94, M106, and M68 (28 objects)



Summer: M83, M102, M5, M13, M92, M9, M10, M12, M14, M19, M62, M107, M4, M6, M7, M80, M16, M8, M17, M18, M20, M21, M22, M23, M24, M25, M28, and M54. (28 objects)

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OBSERVING NOTES:

- **Autumn:** This season's objects span a wide range of right ascension and declination. With several objects located in Sagittarius and disappearing into the glare of the sun by mid-autumn (M55, M69, and M70), it is best to complete the autumn observing program before the end of October. After that they will be too near the sun to observe during late autumn evenings.
- **Winter:** It probably would be best to begin the winter Marathon around mid-February or later. Any earlier in the year, observers will have to wait until late into the night for all winter objects to have risen high enough in the sky to observe. With winter weather moderating in March, it wouldn't be too late to start then so long as observations are completed by the March equinox.
- **Spring:** This season's objects span a rather narrow region of right ascension, with most of the objects being associated with or in proximity to the Virgo-Coma cluster of galaxies. At the start of spring, an observing run beginning near the end of astronomical twilight should allow observers to view all objects by around 10:30 PM. By mid-April, all objects should be well enough placed at the end of astronomical twilight allowing for their fastest possible observation.
- **Summer:** All summer Marathon objects are above the horizon at the end of astronomical twilight on the first day of summer through the last day of summer. They are nearly all tightly clustered around the galactic center, and most are globular clusters with a few notable exceptions.

UPDATE (June 4, 2021): *By fiat of the Regional Chair, it is permissible for a group of two or more individuals to work together using a single telescope on the same night to earn a seasonal Messier Mini-Marathon certificate and pin, so long as the group shares a single certificate and pin. All members of a group must observe each Messier object.*

ADD YOUR EMAIL ADDRESS TO THE NCRAL MEMBER DATABASE

Did you know that only about 475 of our Region's 1,900 members are receiving this newsletter via email? That's less than one-fourth 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.

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

No one will add your email address to this list for you, so you'll need to do it yourself. Sign-up takes only about a minute. You'll need to provide your name, email address, astronomy club affiliation (or indicate A.L. 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://goo.gl/gsS8SF> today so you won't miss important future communications.

NCRAL WEBSITE

~ by Jeff Setzer ~

Did you know that NCRAL has its own website? Point your browser to ncral.wordpress.com and you'll see a central repository for information about our Region and affiliates, the Region's Bylaws, back issues of ***Northern Lights***, information about observing programs, awards, and grants, and much more. Will the website progress from an occasionally used reference to something more? That's entirely up to you, dear reader. If you have ideas or submissions, contact me at astrosetz@hotmail.com

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REGIONAL OFFICER & LEADER CONTACT INFORMATION

Chair and Newsletter Editor: Carl Wenning

Bio: Carl has been an avid amateur astronomer since being introduced to the sky by his grandfather during July 1957. Today he is an A.L. Master observer spending most of his time helping nascent amateur astronomers. He has been involved with the Twin City Astronomers of Bloomington-Normal (Illinois) since September 1978. He was recognized for his education and outreach efforts in 2007 when he received the **NCRAL Region Award**. He served as NCRAL Regional Chair from 2017-2021 and was re-elected for his third and final two-year term in 2021. Carl served as editor of his club's newsletter, ***The OBSERVER***, from 2014-2021 during which time he received the Astronomical League's ***Mabel Sterns Newsletter Editor Award*** in 2017. He has served as the ***Northern Lights*** newsletter editor from 2016 to present. Carl was planetarium director (1978-2000) and physics teacher educator (1994-2008) at Illinois State University. He continues to teach physics education courses in retirement. He just finished his 44th year of college teaching. (Two-year term as Chair, currently in third and final term, 2017-2023; appointed newsletter editor)



Contact: carlwenning@gmail.com

Vice-Chair and Region Representative: Bill Davidson

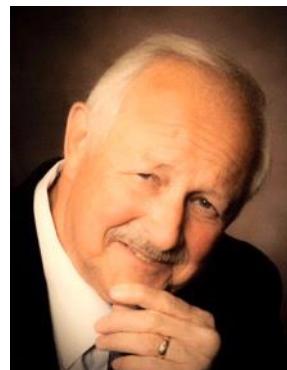
Bio: In the days of the Apollo missions, Bill first observed the moon (and sunspots!) with a 50x, 60mm JC Penny's refractor telescope. Not discouraged, 40 years later, he built and observes with a 6.25-inch achromatic doublet objective, f/10, 1600 mm focal length refracting telescope. He recently retired as a college mathematics instructor, has been a member of the Rochester Astronomy Club (Minnesota) for 20 years, and serves as editor of the club's award-winning newsletter ***Rochester Skies***. (Two-year term as Vice-Chair, currently in second term, 2021-2023; three-year term as Regional Representative, currently in second term, 2019-2022)



Contact: rochesterskies@outlook.com

Secretary-Treasurer: Roy Gustafson

Bio: Roy, a member of Popular Astronomy Club (Quad Cities), got interested in astronomy when visiting the Adler Planetarium in Chicago when he was in 2nd Grade. The stars 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. (Three-year term, currently in second term, 2018-2022)



Contact: astroroy46@gmail.com

Webmaster: Jeff Setzer (appointed)

Bio: Jeff has been an amateur astronomer since 1984 and has been part of the Northern Cross Science Foundation (Wisconsin) since that time. He is a longtime member of their Board of Directors, has held several office positions, and is currently their President. He has completed several Astronomical League observing programs, made his own telescopes and optics, and is a self-described telescope nut. You will often find him at star parties with his 22" Starmaster and TeleVue 85 telescopes.



Contact: astrosetz@hotmail.com