THE EVENT HORIZON

ST. LOUIS ASTRONOMICAL SOCIETY

Devoted to the Interest and Advancement of the Science of Astronomy

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Not So Starry, Starry Night - Quantifying and Combating Light Pollution

by

Vayujeet Gokhale, PhD
Truman State University

Dr. Vayujeet Gokhale of Truman State University will be featured at the June meeting of the Saint Louis Astronomical Society. The meeting will be held via Zoom online conference only, due to the coronavirus COVID-19 outbreak. The meeting and lecture will begin at 7:30 p.m. on Friday, June 19. Zoom access information is shown in the article below.

At any given moment, half of the Earth's surface is experiencing night. But night isn't dark anymore, for most of the United States and much of the whole world. Electrification and industrialization have altered the nature of the night and upset ecological balance in our environment. In this talk, Dr. Gokhale will review some of the latest research on the phenomenon of light pollution, its harmful effects, and ways of mitigating it. He will discuss the rationale behind the 'Sky Brightness Measurement' program offered by the Missouri chapter of the International Dark Sky Association. This is an effort to quantify the sky brightness at various locations across the state of Missouri. The data gathered will help to solve the primary research question: How do local weather conditions such as cloud cover, humidity, temperature etc. affect the sky brightness measurements at a given location? Dr. Gokhale will conclude with a review of the efforts made at Truman State University to reduce light pollution, and provide a recipe for initiating similar initiatives in other towns and cities.

Dr. Vayujeet Gokhale is an associate professor of Physics at Truman State University in Kirksville, Missouri. Dr. Gokhale's research interests include studying Eclipsing Binary stars, astrobiology, and light pollution.

Upcoming Meetings!

July Amy E Kimball, PhD Radio Quasars & the VLA National Radio Astronomy Observatory
August Jeffrey Gillis-Davis, PhD Apollo XIII Plus 50 Years Washington University
September Ann Hofmeister, PhD New Mechanisms for Plate Techtonics, Lunar Drift and Differential Rotation of the Lithosphere.
October Marco Cavaglia, PhD Gravitational Waves Part II University of Missouri: S & T
November-Brett McGuire, PhD Mirror Asymmetry in Life and in Space NRAO-WVa
December- Maura McLaughlin, PhD Still Thinking About a Topic! University of West Virginia

Joining a Zoom Conference Meeting: Everyone can join!

Joining us for a Zoom Conference is easy! All you need is any of the following: Computer, desktop or laptop, smartphone, **OR** any regular phone! The meeting will be open from 7-11pm.

Below is the invitation to join:
To join Zoom Meeting for SLAS Regular Meeting with computer or smartphone:

Just click the link below
https://zoom.us/j/8604505790
Meeting ID: 860 450 5790
Dial by phone using your location (any phone will work)
+1 312 626 6799 US (Chicago)
Meeting ID: 860 450 5790

If you need help joining the meeting, don't hesitate to call Jim Small at 314-307-0692!!
(ps: the link for the meeting is the same each month so far. If there continue to be no problems)

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President's Corner
by
Jim Small

The SLAS Regular meetings for June will be via Zoom conference only. This month features Vayujeet Gokhale from Truman State back to speak to us about measuring light pollution and the program to track it quantitatively. To join the meetings, see the article on the front page for instructions and a link. We had nearly 60 attendees last month and I anticipate even more this month! Don't forget there are attendance prizes this time!

The MSRAL business meeting was held via Zoom on Saturday, June 13. The minutes from that meeting are on page 4 in the newsletter. There have been some good developments for the region, including finally getting the discussion group to replace the old MSRAL discussion group on Yahoo. It is found at MSRAL.groups.io If you are already a member for either STLAstronomy or SLASdialogs, just search on MSRAL and send a request to join! We look forward to seeing you on the group! We are also in the process of updating the website (**www.MSRAL.org**) and a Facebook page for MSRAL is operating as well.

ALCON is postponed until next year, but the business meeting will be held around July 16. It will be posted on our calendar when more details are available.

We will also continue holding SLAS Board meetings via Zoom conference. The link for the board meetings on the First Thursday of the month is the same as the link for the regular meetings.

The AAS conference was held June 1-3. I have never sat through so many zoom sessions in a single day! AND there were WAY too many good talks and posters to try to catch all of them! There were also a number of exhibitors there and it was great to visit with them as well. I still have 30 days to watch any of the meetings that were held, so I'll hopefully have a more detailed report for next month's newsletter! It was a conference that was well worth the registration fee.

Watch for virtual events on the SLAS calendar and watch dialogs for other events you might be interested in participating in.

A couple of events that come to mind are The Grand Canyon Virtual Star Party which lasts until Saturday night with a speaker and live stargazing streamed. There are also events held at McDonald Observatory via virtual streaming for Moon observing, Deep Sky observing and Solar observing.

If you go out, be sure to take a couple of photos and send them to me for the newsletter! See the Danville report from Bill Breeden on page 5!

Hope to see you at the meeting Friday night!
Until then, clear skies!
Jim Small

Outreach Conduct During COVID-19

The following policy will be put into place until such time that Federal, State and Local governments provide direction that COVID-19, no longer requires health and safety precautions including: social distancing; face coverings; and special cleaning. This policy only covers SLAS sponsored meetings and outreach activities where SLAS members and the general public are involved.

1. For events sponsored by non-SLAS organizations, SLAS coordinator shall require the organization provide their COVID safety plan. Plan should include rules for social distancing, face coverings and cleaning. The SLAS coordinator shall review sponsor's plan, and determine if it meets SLAS guidelines.
2. SLAS shall provide to all organizations requesting SLAS outreach services the following guidelines for services:
   a. SLAS provided telescope viewing means that guests and SLAS volunteers will need to touch and look through telescopes. The delicate nature of telescopes and optics prevents frequent and aggressive cleaning of these surfaces. Sponsors and guests must recognize the inherent risk of coming into contact with these surfaces.
   b. Other astronomy related activities that require guests and SLAS volunteers to touch common items will not be available while COVID safety practices are enforced.
   c. SLAS volunteers will provide their own face masks, however the sponsor may provide additional face masks.
   d. SLAS volunteers will wear their masks at all times when they are inside the sponsor's building spaces
   e. SLAS volunteers will wear masks when in sponsor's outdoor spaces when 6-foot social distancing cannot be maintained
   f. Sponsors will provide signage to post near SLAS exhibits advising guests to follow COVID-19 guidelines.
   g. Sponsors will provide access to hand sanitizer to SLAS volunteers
   h. Sponsors will provide access to surface cleaners to SLAS volunteers
   i. Sponsors will ensure all guests wear face masks when within 10-feet of SLAS volunteers.
   j. Sponsors will provide access to hand sanitizer to all guests.
   k. SLAS volunteers may with-hold services if they feel guests are not practicing safe behavior.

Summer Solstice Attendance Prize Drawing

Yes, SLAS Collective, we will have Attendance "Door" Prizes for this months meeting!!!!
Only qualifications: Be a SLAS Member and STILL BE ON-LINE when your name is pulled!!!

Here are the Prizes for the Summer Solstice Drawing!!!

- A Subscription to Star Date Magazine
- A $25 Gift Certificate to an Astronomy Magazine of your choice. Only catch, YOU have to order the Subscription!!!
- A $45 Gift Certificate to "Lookin' UP" for the purchase of an I-Phone Telescope Adapter
- DVDs: Season One of: Project Blue Book
- And of course, our Semi-Legal Chinese Lasers

The Borg (AKA Bradley Waller)

Astrospheric.com

The Astronomers Weather Forecast Site

Perhaps you already know about it. I just discovered the site recently, so I'm just getting started with it. I'm a fan of Clear Sky Clock, NOAA, and other weather forecasting sites that have been in use for a long time. BUT, I have to say, it looks like **www.astrospheric.com** might actually blow most of the other sites out of the water.

If you like a quick visual forecast, you can't beat Clear Sky Clock. Just look at the group of blocks and if the visual is dark blue, pack it up! we're going! But it doesn't give you information about humidity or other factors which might affect your observing.

If you are graph oriented, you can't beat NOAA's graphical display that can be viewed for up to 4 days or so in advance. Wind, humidity, dew point, cloud cover, it's all there. Easy to see graphical format.

Both of the above systems have their use as you can set the location for each of them and have them automatically report on the location.

Why might Astrosperic be better then? Let's look at features you might like. I'll just include some of them here.

1. Automatically calls up current location and displays lat and long at the top. Nice if you're setting up your goto scope.
2. Zoomable map which can have a multitude of overlays including clouds, seeing, transparency, infrared, aerosol, jet stream, light pollution, smoke and ground data.
3. Block display like Clear Sky Clock
4. Graphical display for temperature, humidity, wind speed, sunrise, sunset, moon rise and set graph
5. 6 day forcast.
6. login which allows favorite locations
7. map with locations already set on the map
8. Current and future Moon phase data.
9. Apps available on both iOS and Google platforms.

The program may be embedded into a website, so look for that in the near future.

If you need more information about the program and who is running it and how it works, be sure to check out the FAQ section of the website which may be found here**:** **https://www.astrospheric.com/DynamicContent/faq.php**

Jim Small

MSRAL Business Meeting Held Saturday, June 13th.

The Mid-States Region of the Astronomical League normally holds a conference every year. This year it was supposed to be held in Tulsa the weekend of June 13. Because of COVD-19, that meeting has been postponed until next year. Despite the fact that there will not be a conference, there was still a business meeting via Zoom Conference on Saturday, June 13th. The zoom conference was very similar to our regular meetings.

A fair number of members from the region were present at the meeting and we had reports from several clubs and had some members preeent from clubs that haven't been at a MSRAL event for a while!

You may find the files for the meeting posted on the MSRAL website at **www.msral.org**

The website for MSRAL is in the process of being updated to a wordpress site. Jon Larsen and myself worked for about two hours on getting the new site ready. It is expected to go live perhaps in the next couple of weeks. If you want to look at the progress, you may visit it at **www.wordpress.msral.org** All we have done so far to the site at this writing is choose a theme and colors and uploaded a couple of logos. More to come in the next week or two.

In addition to the website, the MSRAL discussion groups has officially been activated on groups.io. If you are already a member of SLASdialogs or STLAstronomy, you already have a groups.io login. Just head to groups.io and search for MSRAL. If you need an invite, you can just email me at president at slasonline.org

2020 Mid-States Regional Convention Minutes
June 13, 2020 – via Zoom

The 2020 meeting of the Mid-States Region of the Astronomical League was held via Zoom meeting, due to the Covid-19 pandemic. The hosting club was to have been the Broken Arrow Sidewalk Astronomer club. The business meeting was called to order at 11:01 AM on June 13, 2020. The meeting was presided over by Peggy Walker, the 2020 Regional Meeting Chair. A roll call of the clubs and people present was done. We had 9 clubs represented with 21 people. This was a quorum.

Minutes – Jackie Beucher read the minutes of the 2019 business meeting. There were no corrections. Cook Feldman made the motion to accept the minutes; Rick Walter seconded the motion. A vote was taken and the minutes were approved.

Treasurer's Report - Jackie Beucher then presented the Treasurer's Report. Cool Feldman made a motion to accept the report; Jim Twellman seconded the motion. A vote was taken and the treasurer's report was approved.

Regional Representative Report - Jim Small – reported that it was an excellent ALCON in Florida last summer. Having it at the Kennedy Space Center, followed by a cruise to the Bahamas was excellent. The trip ended with the launch of a Falcon rocket from Kennedy.

Mid-States Historian/Webmaster – Jim Small – reported that the website had been upgraded, and he has tried to keep it updated, but would appreciate help from others on keeping it current.

Deceased Members – Only one person in the region was reported as passing away this past year – in 2019, Lee Halbeck of St. Louis.

Election of Officers:

Regional Representative – Jim Small's term was up, so nominations were called for. Peggy Walker was nominated by Cook Feldman; seconded by Jackie Beucher. She was elected by a majority vote.

Secretary-Treasurer – (one-year term) – Jackie Beucher announced she did not want to run again. Jerelyn Ramirez, President of Kansas Astronomical Observers was nominated by Cook Feldman. Carroll Iorg seconded it, and she was elected by a majority vote.

Future Conventions – The 2020 convention was cancelled for this year. The Broken Arrow Sidewalk Astronomers will host it 2021. Peggy Walker was Chair of the 2020 event, and will be Chair of the 2021 event as well..

Old Business – Dues for the International Dark Sky Association were discussed. At MSRAL 2019, it was approved to continue our membership at the $250/year level. This was due in April, 2020, and was paid. We agreed that we should continue at this level for April 2021 IDA dues.

New Business:
Peggy Walker brought up the regional By-Laws and their need to be updated. She asked for volunteers for this committee, and Edward Swain, Carroll Iorg, Jerelyn Ramirez volunteered. They will work on this and get changes done no later than April, 2021, for approval and voting.

We discussed the MSRAL website. It needs to be updated with all the current information, which Jim Small is working on with the new upgraded website.

Peggy talked about the MSRAL 2020 Registration Website and asked people's opinion about it. She offered to have that be used for future conferences so that hosting clubs won't have to start from scratch and the ease of use. Peggy also mentioned she had generated a new MSRAL website to be the go-to hub for communication. Jim Small had been working on having groups.io set up for communication. Both methods will be used and discussed over the coming months.

We also determined we have a Facebook page, which Kent Martz, with the Sugar Creek club, originated. Carroll will get in touch with him regarding changing the moderators to Jim Twellman and Peggy Walker so it can be activated.

We then discussed the possibility of regional quarterly meetings via Zoom. There would be many benefits for all the clubs in sharing information on outreach, speakers, etc. Peggy will coordinate these.

A conversation ensued about how clubs were conducting outreach in this current Covid-19 situation. Several ideas were presented, and the care of eyepieces was discussed.

A motion to adjourn the meeting was made by Rick Walker; seconded by James Small. The motion passed, and the meeting adjourned at 12:36 PM.

Respectfully Submitted,
Jackie Beucher
MSRAL Secretary-Treasurer
June 13, 2020

Danville Observing Report Saturday, June 13, 2020

by Bill Breeden

DANVILLE, MO - I was about to write off 2020 completely. It seems many factors have conspired against my observing this year: COVID-19, lousy weather, and a growing personal situation all came together to make this year less than ideal for astronomy, to say the least. With all public outreach suspended for who-knows-how-long, even brief sessions at the eyepiece under light-polluted skies have been too much to ask for, let alone the logistics required to get in a night under a dark sky. Back in February, before COVID-19 restrictions, Cook Feldman and I managed to get in a nice Danville night due to some unseasonably mild weather. I was beginning to believe that might be the only night of real observing I would get in during this whole, less-than-stellar year.

Back in 2011, I bought Steven James O'Meara's book Hidden Treasures, a book that highlights 109 deep-sky objects that are not on Charles Messier's or Patrick Caldwell's famous lists. I had always intended to integrate these objects into my 12 prepared monthly observing lists, but I had never actually got around to it. Until this week!

Years ago, I had predicted that I may indeed forget to take the time to prepare a night's observing targets, especially if the skies clear and an impromptu night of observing becomes possible. I realized that it would be handy if I could just grab a pre-made list of objects – preferably a list that includes objects visible from the city (such as double stars), and objects best viewed from a dark site (such as Messier and Caldwell objects). To make the list even more useful, it would nice if the objects all came from sources well-known in the amateur astronomy arena. For example, double stars listed in the Astronomical League's (AL) Double Star observing program, the AL Carbon Star program, etc.

There are many very, very good observing list generators available online, and many of our members have also provided Excel spreadsheets and utilities that generate very good and interesting observing lists. But I wanted something that I could just print out on one or two pages, include only the major catalogs I referred to above, and always have with me in my astronomy kit. I made them myself, and they now include all 109 objects from Hidden Treasures. Included are twenty bonus objects listed in Appendix C of the book, bringing the total number of additional objects to 129.

My wife Rita accompanied me to Danville. As the sun set, she admired the deepening blue sky. There were no planets up yet, so I showed her a few of the double stars from my June observing list. Izar (Epsilon Bootis) is a 2nd and 5th magnitude double star, and it makes a great showpiece object either from light-polluted skies, or even from a dark site before astronomical twilight ends. I inserted my 24mm Panoptic eyepiece, and Rita really enjoyed the view! I also showed her Kappa Bootis, and Alpha Librae (Zubenelgenubi). These made wonderful sights for Rita to enjoy! After that, she spent most of the night relaxing in a lawn chair with a blanket, looking up at the stars. Danville is wonderful for simple stargazing as well!

Tonight at Danville was my first dive into Hidden Treasures. I was not disappointed! I would have to pass over the first object from the new collection on my June list, NGC5662, an open cluster in Centaurus. It is just too far south to see from Missouri. In the spirit of completion, my lists do include objects in the southern celestial hemisphere. I may get there someday, but mostly so that people farther south can use these lists to complete the various catalogs. So, tonight I would begin with NGC5746, a spiral galaxy in Virgo. This 9th magnitude galaxy was surprisingly bright through my 24mm Panoptic eyepiece, although the nearby bright star 109 Virginis washed it out some. Replacing the eyepiece with my 19mm Panoptic did the trick, as it allowed me to place 109 outside the field of view. What a difference! NGC5746 is a beautiful edge-on spiral galaxy 96 million light-years away. I can add this one to my first timers!

Next up was Hidden Treasure NGC5866, known to some amateur astronomers as M102. I could not quite figure out why O'Meara included M102 in Hidden Treasures, since this creates overlap, and the point of the book is to adventure off the beaten path. Then it became clear: M102 is missing from many published Messier lists, so many amateur astronomers miss viewing NGC5866 altogether. As a bonus, O'Meara's write-up on this object is nothing less than fascinating. NGC5866 is a 10th magnitude galaxy in Draco, located 50 million light-years from my telescope. In my 19mm Panoptic, it appears as a bright smudge with a very faint halo. Stars around the galaxy seems to surround it and highlight it.

NGC5897 is named the "Ghost Globular" in O'Meara's book. Great name, since I nearly missed it! Even with the gee-whiz magic of a goto telescope pointing right at it, it does not look the way a globular cluster located only 40,400 light-years away should look. It looks more like one located seven times farther away, the well-known Intergalactic Wanderer, NGC2419 in the constellation Lynx. In any case, NGC5897 is very faint, even though its magnitude is listed at 8.2. If you search for this one, prepare for just a bit of a let-down.

Again, I would have to skip an object, NGC5986, a globular cluster in Lupus. It was above the horizon (barely), but trees blocked my view.

The next object I borrowed from my July list. NGC6210, a planetary nebula in Hercules, lies in the 16-hour line of right ascension, which means that it transits about 10pm in July. No harm in borrowing objects from next month's (or last month's) lists, since that just places the object east or west of the meridian. NGC6210 is an 8th magnitude planetary nebula that blinks on and off, depending upon your eye placement, and the aperture of your telescope. For me,

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it blinked so well that I did not see it at first because I was looking right at it! Amateur astronomy is one of the few pursuits where you don't look at something in order to see it.

Since borrowing from my July list worked so well, I decided to borrow some Hidden Treasures from my May list as well. First up was NGC4699, a spiral galaxy 84 million light-years away in Virgo. Virgo has no shortage of distant galaxies, but it would be fun to see some new ones! This one shines at magnitude 9.5 and is basically round with a bright core. It is located quite close to M104 (the Sombrero Galaxy), so next time you visit that, stop by NGC4699. It is worth a look!

The next object was perhaps the highlight of my night. NGC4725, a hidden treasure in Coma Berenices, is a 9th magnitude spiral galaxy, 42 million light-years distant. O'Meara laments about how this galaxy seems to escape notice, and I agree! I have spent many nights exploring Coma Berenices, as this is one of my favorite constellations. Go to a dark site in the spring and gaze up at Leo the Lion. Notice a large, twinkling, sparkling, group of stars between Leo and Virgo? That is Melotte 111, the "hair" of Coma Berenices. What a stunning part of the sky! NGC4725 was amazing in my 19mm eyepiece. The core was obvious, but the outer halo is broken in such a way as to resemble parentheses. It reminded me of Darth Vader's personal shuttle.

I skipped over NGC5102, a galaxy in Centaurus, only because I had borrowed this one from my May list. It was near midnight in June, so this part of the sky was well west of the meridian. In May this object is still above the southern horizon, but not now! Too bad.

In addition to the objects reviewed above, I also observed Hidden Treasures NGC5846 and NGC5907, from the Appendix C lists. They are included in my June observing list compilation. Both are galaxies worth taking the time to observe. I won't spoil them for you here!

As a night cap, I shared a view of the Ring Nebula (M57) with Rita. I cranked up the magnification to 222x using my 9mm DeLite eyepiece. M57 appeared large and clear! I remember observing this dying star fifteen years ago with Rita from Star Hill Inn in New Mexico. It was our last object to view that night as well. I know the nebula is changing over time, but it amazes me that after fifteen years, it still looks the same. Fifteen years is but a blip in time on a cosmic scale.

It was nice to get out observing again, especially at a dark site. If you are interested in using my updated monthly observing lists, they have been published on River Bend Astronomy Club's website under the Resources tab. Here is a link**:** **https://riverbendastro.org/resources/**.

Clear Skies,

Bill Breeden

SLAS Special Recognition Awards

SLAS is pleased to kick-off a new special recognition award program.

There are four award categories listed below. Descriptions for each award are shown on the SLAS website. Please read the descriptions for each award, then fill out the information for the person you wish to nominate for a particular award below the description. You may nominate a person for multiple awards, but you may only nominate one person per award. Finally, the completed form(s) should be attached to an email and sent to awards@slasonline.org with the subject line Award Nomination Form Submission. **The deadline for nominations is July 1, 2020.**

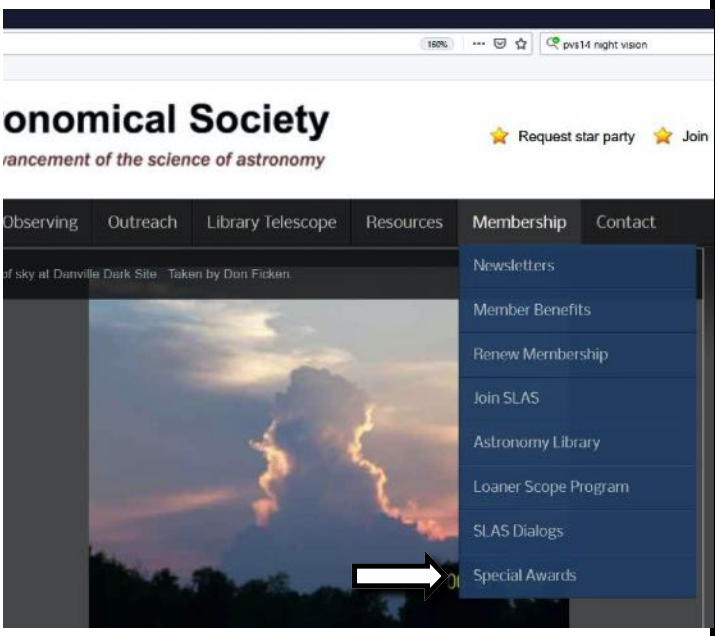
The Albert M. Obrecht, Founders Award

The Lois D. Fitter Outreach Award

The Robert E. Cox Popular Astronomy Award

The Alfred L. Woods Mentoring Award

How to nominate. Go to the SLAS website and on the Membership tab, select **Special Awards**.



Once you are on the Special Awards page, select the nomination form you would like to open. The nomination form will open as a Microsoft Word file.
Please read the descriptions carefully for each award, then fill out the information for the person you wish to nominate for a particular award below the description. It is the responsibility of the nominator to demonstrate how their

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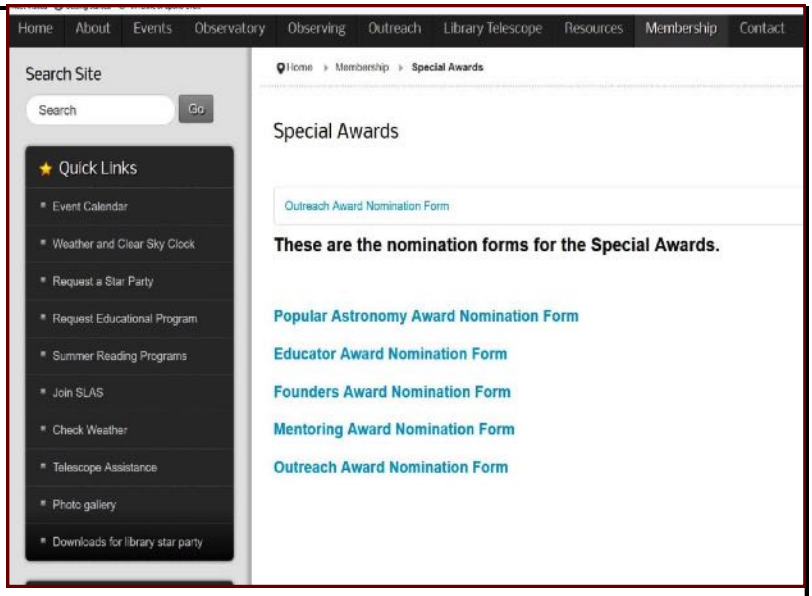
nominee meets the criteria described for the award. You may nominate a person for multiple awards, but you may only nominate one person per award. The Award Review Committee reserves the right to reject or return any nomination form to the nominator if the submission needs further substantiation, clarification, or reclassification to a different award category.

If you have questions about the nomination form or the nomination process send email to awards@slasonline.org with the subject line Question about Nomination Form.

Completed form(s) should be attached to an email and sent to awards@slasonline.org with the subject line Award Nomination Form Submission. **The deadline for nominations is July 1, 2020.**

The Special Awards webpage will be updated with these instructions and full descriptions of the awards in addition to the nomination forms.



Some images from the last month taken by Mark Jones using his Meade 12" SCT and a Canon camera.

In the upper left, M13, a globular cluster in Hercules

In the upper right, M57 a Planetary Nebula (the remains of a star that has shed its outer layers) in Lyra.

Left, a photograph of Wolf 359, a star that was also photographed on the same day by the New Horizons spacecraft with the data published by NASA. The two photographs may now be used to determine the distance to the star very accurately by parallax, a system where the position of a star is compared to background stars from two different positions. The farther apart the two positions are, the more accurate the measurement. This exercise represents the largest distance ever used in this sort of parallax measurement. For more information, see the NASA website at **https://www.nasa.gov/feature/nasa-s-new-horizons-conducts-the-first-interstellar-parallax-experiment**

St. Louis Astronomical Society
Devoted to the Interest and Advancement of the Science of Astronomy
Executive Board Meeting Minutes May 7, 2020

1. Opening Activities
a. Attendance: Jim Small, Larry Campbell, Bill Winningham, John Newcomer. Brent Buch, Brad Waller, Mark Jones
b. Open Meeting: opened 7:02 on Zoom
c. April meeting minutes distributed before meeting. Motion to approve the April minutes by John N and second by Larry C. Minutes were approved.
d. Next Board meeting dates: Meetings will be via Zoom until further notice: Jun 4, Jul 2, Aug 6, Sep 3, Oct 1, Nov 5, Dec 3

2. Upcoming General Membership meeting topics:
a. Speaker: William McKinnon, PhD - Journey to Farpoint: NASA's New Horizons Mission Encounters the Kuiper Belt Object Arrokoth
b. Promote new SLAS Awards and deadline of July 1
c. Speaker Press Release: came out May 7
d. Special Business needed: Election, Nominees are: President, Jim Small; Vice President, Bradley Waller; Treasurer, Bill Winningham; Secretary, Mark Jones; Hospitality, Larry Campbell; Board Member at Large, Tom Nickelson.
e. A101: Ask Bill Breeden to show how to do virtual star parties

3. SLAS Financial Report
a. Profit/Loss report - $0 events income from SLCL. No LTP repair expenses. Meeting refreshments expenses down.
b. CD renewed at much lower interest rate. Net income YTD is $1228. Insurance renewal will show paid in May
c. Annual Budget meetings will begin in September
d. Corporate filings: Occurs in August}
e. The Insurance policy has been renewed and the 2019 990-N E-postcard has been filed.
f. Trout lodge balance is $14.21

4. Speaker Committee
a. Budget - $500
b. Upcoming speakers: June-Vayujeet Gokhale, July-Amy E Kimball, PhD, August-Jeffrey Gillis-Davis, PhD, September Ann Hoffmeister – Washington University, October-Marco Cavaglia, PhD, November-Brett McGuire, PhD, December- Maura McLaughlin, PhD
c. Open dates: no open dates until 2021
d. Topics of interest
e. Stipends
f. Travel
g. Mars 2020 could land in March.

5. Membership Initiatives
a. Budget - $400
b. Welcome Aboard Meetings – on hold
c. Raffles – none planned
d. Attendance prizes – planned for Solstice

6. Membership Recognition
a. Total Budget $900
b. NSN Outreach Awards: Almost all awards have been distributed to members
c. Membership Report: April 2020 shows membership at 171 members. This is a decline of 16 members from last month and 11 members from the beginning of the year. The decline is driven primarily by a lag in membership renewals. Reviewing the list, there are several "regulars" who have not renewed. Bill sent out renewal notices on April 29th. Hopefully we will see renewals coming through soon. I received three renewals yesterday.
d. Member anniversary awards- planned for later the year
e. New Award program - $600 budget
1. New Award Committee report: Committee formed, Nomination forms finalized. Chairman – Larry Campbell, Jim Small, Mark Jones, Cook Feldman, Sharon Bertram, Fred Schovanez, Bill Neubert,
2. New Award Policy and nomination process
3. Submittal deadlines – This year July 1
4. Nomination reviews
5. Award selection
6. Plaques purchased
7. Awards presented

7. Outreach
a. Budget - $1100
b. Member Training Program Status: on hold for the time being.
c. Purchase of T-shirts for volunteers completed training
d. Purchase of lawn signs – purchased
e. Upcoming outreach events: Outreach in the current and near future situation. Discussion of techniques to be used.
f. Awards/recognitions – planned for Jan-Feb each year
g. NSN Outreach hours YTD
h. Larry has a-frame sign that Brad and Bill Breeden can have for using at Francis Park

8. Old Business: Training Program start a committee

9. New Business: MSRAL for 2020 is cancelled and will be held in 2021. Discussion of hosting for MSRAL in 2021 or 2022
ALCON for 2020 is cancelled and will be held in 2021.
Due to the COVID-19 virus and the need for social distancing we will not be able to meet in one physical location for May meeting.
As seen in Article V below, election of officers shall be held at the May regular meeting. SLAS plans to hold the May meeting using Zoom video conferencing.
ARTICLE V – MEETINGS (Amendment XIII - Adopted 5-15-1981)
The society shall hold an election of officers during the May regular meeting of each year; elected officers to take office at the following monthly meeting. The society shall hold meetings on the third Friday of each month, unless otherwise called by the executive council. It shall hold such other meetings as the executive council, or the membership may desire. Mark Jones made a motion to clarify our plans for May election of officers.
Motion by Mark Jones: "That the Executive Council shall declare that the May regular meeting will be officially held using zoom video conferencing. Further that the official election of officers will be by vote during the May meeting. Additionally, I move that elections follow the process outlined: (1) That the Executive Board assign an Election Chairperson before the final vote. (2) That final nominations be opened for any office. (3) If the offices are unopposed, then a voice vote for and against be taken for slate of officers. (4) If there are any offices with more than one nominee, then the membership shall submit their vote to the election chairperson using the private chat feature on zoom. (5) The election chairperson shall then tabulate the votes and announce the results before the end of the May meeting." Motion seconded by John N. Motion passed by Board.

10. Other Committee Reports: If needed
a. SLSC Business:
a. First Friday actions: First Fridays are cancelled until further notice.
b. SLAS will approach SLSC about virtual First Friday stargazing
c. Other immediate business SLSC now doing an astronomy fact of the day on their website.
b. SLCL Business:
a. Annual contract – on hold
b. Upcoming events – cancelled until further notice
c. Jefferson College Business:
a. Committee Meeting report – Meeting planned to discuss budget impacts on Jefferson College. Architect plans ready to go out for construction bid. Committee will be brief Jefferson College Board on May 20th for approval to release request for bids.
b. Upcoming Outreach events are cancelled for April and May, Summer to be discussed later
d. Library Telescope Committee
a. Budget – $650
b. Upcoming builds or maintenance events
c. Maintenance budget - $200
d. Mileage re-imbursement - $250
e. Promotional materials - $200
f. Money received from Cape Girardeau Library - $307.50
e. SLAS Social Events
a. Budget - $300
b. Homemade Fest - $100 budget
c. Star-B-Q - $200 budget, date and venue on hold
Other
f. SLAS Brochures
a. Budget $325
b. Quarter cards
g. Loaner scope Program
a. Budget - $100
b. New donations
c. Items for sale
h. SLAS Library
a. Budget - $400
b. Other $400 budget
i. Star Parties Donation: Star parties are cancelled through April 22 at this time pending further information.

11. Closing Activities
a. Motion by Brad W. to adjourn meeting, second by Larry C. meeting adjourned at 9:13pm

St. Louis Astronomical Society
Profit & Loss Budget vs. Actual
January through May 2020

	Jan - May 20	Budget	$ Over Bud...
Ordinary Income/Expense			
Income			
Events Income		405.00	(405.00)
Magazine Subscription	937.30	670.85	266.45
Membership Dues	2,135.00	2,085.00	50.00
Total Income	3,072.30	3,160.85	(88.55)
Cost of Goods Sold			
Magazine Subscriptions	937.30	603.90	333.40
Total COGS	937.30	603.90	333.40
Gross Profit	2,135.00	2,556.95	(421.95)
Expense			
1-Programs & Events	572.87	2,045.00	(1,472.13)
2-Newsletter		290.00	(290.00)
3-Library expense	81.53	208.33	(126.80)
5-Loaner Scopes		41.00	(41.00)
6-Brochures		250.00	(250.00)
7-Insurance	1,049.50	1,050.00	(0.50)
8-Website	179.40	415.00	(235.60)
9-Administrative Expenses	97.18	129.00	(31.82)
Total Expense	1,980.48	4,428.33	(2,447.85)
Net Ordinary Income	154.52	(1,871.38)	2,025.90
Other Income/Expense			
Other Income			
Donations	102.05		102.05
Interest Income	82.50	83.00	(0.50)
LTP Receipts	1,669.01		1,669.01
Proceeds from Lens Sales	694.10		694.10
Total Other Income	2,547.66	83.00	2,464.66
Other Expense			
LTP Disbursements	1,799.26		1,799.26
YMCA Trout Lodge ESCROW Expe...	14.21		14.21
Total Other Expense	1,813.47		1,813.47
Net Other Income	734.19	83.00	651.19
Net Income	**888.71**	**(1,788.38)**	**2,677.09**

St. Louis Astronomical Society
Balance Sheet
As of May 31, 2020

	Dec 31, 19	May 31, 20
ASSETS		
Current Assets		
Checking/Savings		
Checking - First Bank	7,187.45	7,839.40
Deposit, Certificate of	15,841.67	15,906.37
Library Telescope Escrow	1,053.86	998.61
PayPal	77.94	97.66
Savings - First Bank	41,122.69	41,140.49
YMCA Trout Lodge Escr...	14.21	0.00
Total Checking/Savings	65,297.82	65,982.53
Other Current Assets		
Inventory Asset	761.53	761.53
Undeposited Funds	20.00	0.00
Total Other Current Assets	781.53	761.53
Total Current Assets	66,079.35	66,744.06
Fixed Assets	15,000.00	15,224.00
TOTAL ASSETS	**81,079.35**	**81,968.06**
LIABILITIES & EQUITY		
Equity		
Opening Bal Equity	8,497.66	8,497.66
Retained Earnings	69,757.14	72,581.69
Net Income	2,824.55	888.71
Total Equity	81,079.35	81,968.06
TOTAL LIABILITIES & EQUITY	**81,079.35**	**81,968.06**

We could use articles for the newsletter. The following topics are fine for submission.

1. Star party reports. Let us know how a star party you attended went! Photos would be most welcome in addition to the article.

2. Observing reports. Actually made it out observing? Let us know how it went. Taken some astro photos? Please submit!

3. Bought something or built something? How about a review or an article!

Send to newsletter@slasonline.org

Upcoming Star Parties and Other Events

For details on these and other upcoming events, check out the Night Sky Network Calendar linked on the Home Page for SLAS at http://www.slasonline.org

SLAS Executive Board Meetings ***Location will be at Nicoletti's Restaurant in Valley Park*** All meetings are on First Thursdays unless noted. ***Note: Board meetings will be via Zoom until further notice.*** June 4, July 2, Aug 7, Sept 3, Oct 1, Nov 5, Dec 3

Dark Sky Observing Dates

Francis Park Events: These events are on Wednesdays of the week nearest the first quarter Moon Jun 24, July 29. Aug 26, Sept 23, Oct 21

Sky Orienteering Events For members who want to gather and do some relaxed observing at Babler State Park

Please RSVP if you plan to come!

SLSC Public Telescope Viewing Events: These events are held the first Friday of the month Planetarium shows start at 7pm Jun 5, July 3, Aug 7. Sept 4, Oct 2, Nov 6, Dec 4

Pattonville Observatory Public Viewing Dates ***See you next year! Maybe!***

Broemmelsiek Astronomy Park Public Viewing Cancelled until further notice

UMSL Observatory
For directions and map
http://www.umsl.edu/~physics/About%20the%20Department/astro.html

All sessions include viewing of 1st quarter Moon with additional objects

Skywatch Hotline: 314-516-5706

Saturdays:

LET US KNOW YOU ARE COMING!

To RSVP for any of these events log in to the Night Sky Network and submit your RSVP. If the event is canceled, you will be notified immediately according to the preferences you have selected.

SLAS EVENTS

June

19 Fri	SLAS Regular Meeting (zoom)
19 Fri	Virtual Grand Canyon
20 Sat	Virtual Grand Canyon
20 Sat	SLAS Dark Sky Observing
21 Sun	SLAS Sky Orienteering!
24 Wed	Virtual Francis Park
27 Sat	Virtual Stargazing at the Arch

July

2 Thur	SLAS Board Meeting
3 Fri	SLSC First Friday?
5 Sun	Virtual Jefferson College Observatory
17 Fri	SLAS Regular Meeting
18 Sat	SLAS Dark Sky Observing
19 Sun	SLAS Sky Orienteering
25 Sat	Virtual Stargazing at the Arch
29 Wed	Virtual Francis Park Stargazing
31 Fri	Virtual Backyard Campout

August

6 Thur	SLAS Board Meeting
7 Fri	SLSC First Friday?
9 Sun	Virtual Jefferson College Observatory
15 Sat	SLAS Dark Sky Observing
16 Sun	SLAS Sky Orienteering
21 Fri	SLAS Regular Meeting
22 Sat	Virtual Stargazing at the Arch
26 Wed	Virtual Francis Park Stargazing

For other events, watch the calendar on the website. Virtual stargazing events and other online activities will be registered there. We hope you can join us for some of these activities!

SLAS Merchandise Available

SLAS merchandise is now set up for embroidery at **Headz n Threadz at** https://hnt.threadthis.com/

There are two locations:
Galleria: 2495 St. Louis Galleria, St. Louis, MO 63117 Telephone: 314.862.2695
galleria@headznthreadz.com

Simply take the garment, hat, etc you wish to have embroidered and they will take care of it. They have the SLAS logo on file. You may make modifications to the colors if you wish.

SLAS Logo is also available at Infini-tees

SLAS MEMBERSHIP APPLICATION

Name: Last _____

First, Middle Initial _____

Address _____

City, State, Zip Code _____

email address _____

Please send completed form with check (no cash please) made payable to

St Louis Astronomical Society

Don Ficken, Membership
13024 Barrett Crossing CT
St. Louis, MO 63122

Youth @ $10.00 / 1 year (18 yrs or younger) $_____

Individual @ $25.00 / 1 year $_____

Family @ $40.00/1 year $_____

Publications with discount available with your SLAS membership:

Sky and Telescope @ $32.95 / 1 year $_____

(S&T may also be renewed at their website: http://www.skyandtelescope.com)

Astronomy @ $34.00 / 1 year $_____

TOTAL ENCLOSED **$_____**

Check all that apply:

___ Renewal
___ Address Change Only
___ Please send my newsletter by regular mail
___ ***New Member!***

SLAS OFFICERS

President ***Jim Small*** 314-307-0692
president at slasonline.org

Vice President ***Bradley R Waller*** 314-481-7250
vicepresident at slasonline.org

Secretary ***Mark Jones*** 636-394-2342
secretary at slasonline.org

Treasurer ***Bill Winningham, (Don Ficken - membership)***
treasurer at slasonline.org 636-357-2763

Hospitality ***Larry Campbell*** 636-244-2867
hospitality at slasonline.org

Board Members at Large:

Tom Nickelson 314-346-9565
board20 at slasonline.org

Brent Buch 314-239-0329
board21 at slasonline.org

John Newcomer 314-496-4636
board22 at slasonline.org

ALCOR ***Bill Winningham*** 636-357-2763
(Astronomical League Correspondent)
treasurer at slasonline.org

MSRAL Rep. ***Jim Small*** 314-909-7211
msral_rep at astroleague.org

COMMITTEE CHAIRS

Dark Site Coordinator ***Mark Jones*** 636-394-2342
darksite at slasonline.org

Librarian ***Jim Small*** 314-909-7211
librarian at slasonline.org

Library Telescope Program ***Don Ficken*** 636-851-9630
librarytelescope at slasonline.org

Loaner Equipment ***Greg Gaines*** 314-277-3082
loaner at slasonine.org

Merchandise ***Vacant***
merchandise at slasonline.org

Membership ***Don Ficken*** 636-225-0269
membership at slasonline.org

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newsletter at slasonline.org

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observing at slasonline.org

Publicity ***Rich Heuermann*** 314-962-9231
publicity at slasonline.org

Recognition ***Larry Campbell*** 636-244-2867
recognition at slasonline.org

Social Media *Vacant*

'SLASdialogs' Moderator ***Mark Jones, Rhonda Whelan***
dialogsmoderator at yahoo.com

Star Party Coordinator ***Bill Breeden*** 314-276-3613
starparty at slasonline.org

Telescope Making ***Bill Davis, Jim Melka*** 314-469-3061
telescope at slasonline.org

Webmaster ***Jim Small*** 314-909-7211
webmaster at slasonline.org

Devoted to the Interest and Advancement of the Science of Astronomy

ST. LOUIS ASTRONOMICAL SOCIETY

We're on the Web!
http://www.slasonline.org

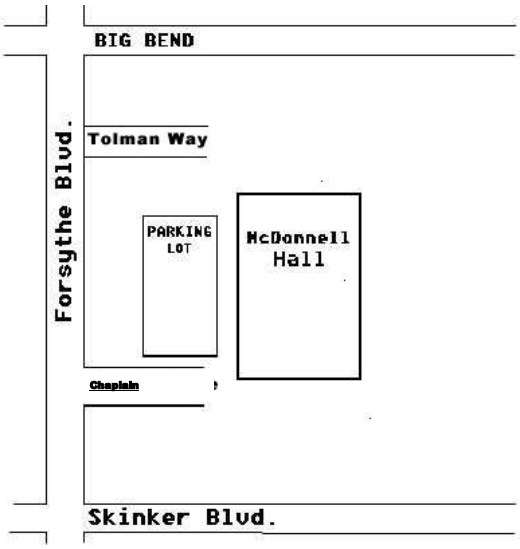
Follow us on
Twitter: @stlastro
Facebook: @stlastro

Who We Are and What We Do

St. Louis Astronomical Society is a not-for-profit organization established in 1936. SLAS is devoted to the interest and advancement of the science of astronomy. Our mission is to promote an understanding of the science of astronomy to our members and to the public. Membership is open to any-one with an interest in astronomy.

For more information contact any SLAS officer or visit our website listed above. SLAS is affiliated with the Astronomical League, Night Sky Network and the Mid-States Region of the Astronomical League.

Meetings are held the 3rd Friday of each month at McDonnell Hall at Washington University. See the map to the right for directions.



St. Louis Astronomical Society
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