

# THE EVENT HORIZON



## ST. LOUIS ASTRONOMICAL SOCIETY

*Devoted to the Interest and Advancement  
of the Science of Astronomy*

**VOLUME 31, Issue 3  
March, 2021**



### Recent Happenings in the Milli- meter and Radio Universe

*by*  
**K Michael Malolepszy  
SLAS**

Recent Happenings in the Millimeter and Radio Universe”, an illustrated presentation by K. Michael Malolepszy of the Saint Louis Astronomical Society, will be held via Zoom online conference. The meeting and lecture will begin at 7:30 p.m. on Friday, March 19. Zoom access information is posted on the Society’s website, [www.slasonline.org](http://www.slasonline.org). The event, cosponsored by NASA’s Missouri Space Grant Consortium, is open to the public free of charge.

In addition to telescopes that use light waves to form images, there are now instruments that “see” the universe in invisible radiation. X-rays, heat, and radio waves are examples. Millimeter waves are high energy radio waves with wavelengths measured in millimeters. When viewed at millimeter and radio wavelengths, the universe looks quite different from the visible light images we can see directly. Michael Malolepszy will talk about recent events in millimeter and

radio wavelength astronomy such as the disastrous Arecibo radio telescope collapse in Puerto Rico. Arecibo was a 1,000 foot wide radio telescope built into a valley in Puerto Rico. It collapsed on December 1, 2020, when cables holding the multi-ton radio receiver equipment snapped. Arecibo was widely used to support research in planetary sciences and astronomy. Mr. Malolepszy will talk about the loss of Arecibo and its implications for planetary astronomy and millimeter and radio observations of objects such as the Large Magellanic Cloud and other nearby galaxies.

Michael Malolepszy is a veteran amateur astronomer. Now employed by the Department of Biology at Washington University, he formerly worked as a Radio Telescope Array Operator at the Very Large Array radio telescope in Socorro, New Mexico. Mr. Malolepszy also presents planetarium programs at the St. Louis Science Center’s McDonnell Planetarium.

#### Upcoming Meetings 2021

**April** Ian H. Redmount, PhD Cosmic Roller Coaster St. Louis University

**August-** Robert Criss, PhD Galactic Rotation & Dark Matter Washington University

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### READ ME !!!!!!!

**Beginning in April, SLAS will have it’s own Zoom account and the link for the meetings will CHANGE!  
We’ll keep you posted for the new ID.**

### Joining a Zoom Conference Meeting: Everyone can join! No Computer Required!

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 6:30-11pm. The extra time is to allow socializing before or after the meeting

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 ANY phone** using your location (any phone will work)

+1 312 626 6799 US (Chicago)

## **President's Corner** **by Jim Small**

Last month's meeting was terrific! You just can't beat having Ray Arvidson talk about current events on Mars! This month Mike Malolepszy will fill us in on the latest and greatest from the mm and submm wavelengths!

We had another successful sale of equipment and helped clear out my living room once more! See the article about the Cave telescope and the pictures of the Meade. We still have the Monolux 4380 if someone wants a classic refractor to use as a great beginner scope! We made \$680 to be used with the observatory or the loaner scope program.

-Monolux 4380 refractor with beautiful wood case that holds the scope, mount and accessories. Beautiful collectors item in mint condition. Call Jim at 314-307-0692.

Speaking of the observatory, Mark Jones and I met with the concrete contractors at Sandy Moody's residence to look at the concrete to be poured for the pier and the dome. They had the 30" sonotube that will be used for the pier on their truck when they came! We are really excited because they will likely do the pour in the next week or two! Look for the opening this summer!

We are passing out the pins and certificates for the NSN recognition awards this week. Those we don't meet in person will find them in the mail soon!

I attended a zoom meeting that was to have Katie Bouman speak about her data processing to generate the photo of the black hole taken by the Event Horizon telescope. It was sponsored by Mt Wilson Observatory but she was not able to make it! Soooo, we had 60 astronomers discussing stuff for an hour or so. One of the topics was a \$15 eyepiece which might be great for outreach! It is a SVBONY 23mm, 1.35", 62 deg apparent field aspheric eyepiece. I ordered 5! It looks pretty good, will field test after the meeting Friday. Below is a photo. Bradley will likely have a couple for attendance prizes in June!



NEAF 2021 will be a FREE virtual event on Saturday, April 10, 2021 at 10 am. If you even THINK you like astronauts, check out the link and plan on attending! Here is the link: <https://www.neafexpo.com/>

Finally there is the McDonnell Distinguished Lecture Zoom event on March 25 at 7:00pm. It will feature Katherine Freese, the Jeff and Gail Kodosky Endowed Chair in Physics at the Univ of Texas at Austin. She will be speaking about the Dark Side of the Universe. For the zoom invite link [Visit https://mcss.wustl.edu/events](https://mcss.wustl.edu/events) and scroll down. Clear Skies! Jim Small

# MSRAL 2021

## **Mid-States Region of the Astronomical League Annual Conference**

**Dates: Friday, June 4, 6:00pm to Sunday, June 6, 12:00pm**

**Hosted by Broken Arrow Sidewalk Astronomers**

**Venue: Northeastern State University, Broken Arrow Campus**

**Simultaneous Student Conference for 6th grade to High School**

**Direct Registration Link:**

**<https://msral2020.wixsite.com/register4msral2020>**

**MSRAL website:**

**<http://msral.org/>**

## MSRAL 2021 CONFERENCE by Cook Feldman

You have probably heard some talk about the “MSRAL 2021 Conference” and the newer members may have some questions such as “What Is MSRAL.” Hopefully, I will be able to shed some light and provide some information about this year’s scheduled conference.

As part of your membership in SLAS, you are automatically a member of The Astronomical League (<https://www.astroleague.org>) which is our national governing organization. The League is divided into 10 regions of which we are part of the Mid-States Region (MSRAL). Our region consists of clubs and League Members-At-Large located in Missouri, Arkansas, Nebraska, Kansas and Northern Oklahoma. I am happy to say the Mid-States Region is one of the most active regions in the League.

Each year, a 3-day conference is sponsored and held in a location of one of our member clubs. These conferences are set up promote contact, discussions and friendship between the attending members who have similar interests. The weekend events normally start off with a “Star-B-Que” on the Friday evening of the conference. This gives each one of us to see old friends and to develop new friendships. It is a great chance to catch up with others in the region.

The actual conference starts on Saturday morning with the annual business meeting, where the business of the region is discussed. This provides the attending clubs to briefly fill the rest of us in on is going on with their clubs that may be of interest to the rest of us.

The balance of the day is spent listening to guest speakers that range from professionals to members. The topics covered can be as diverse as the presenters. From personal experience, the “talks” have always been informative and could provide different ways of doing things such a community outreach. On that Saturday evening, the awards banquet is held with a keynote speaker. If you decide not to purchase the banquet meal, you can still attend for the awards and keynote which is included in your price of admission. The conference concludes around noon on that Sunday after the morning talks. SLAS has host the MSRAL Conference nine times since the conferences began in 1949 with the last being 2016 which was co-hosted with the Astronomical Society of Kansas City.

One of the prestigious awards given each year is the Amateur of the Year Award. Each club is able to submit a nomination letter for one of their members to be considered for this award. Those nominated are discussed and chosen by a committee of previous recipients. SLAS members have received this award 12 times. Most of the members you may not know and others are current members.

1968	Stuart O’Byrne
1972	Del Scott
1975	Ed Friton
1976	Thane Bopp
1979	Wayne Clark
1981	Bob Cox
1983	Al Wood
1990	Winnie Fallert
2011	Cook Feldman
2014	Jim Small
2016	Don Ficken
2017	Mark Jones

These members received recognition for their service to the club, region and/or League to promote amateur astronomy or make significant contributions to the hobby.

This year’s conference is currently scheduled for Friday evening, June 4, 2021 through Sunday noon, June 6, 2021 in Broken Arrow, Oklahoma. This year’s conference is hosted by the Broken Arrow Sidewalk Astronomers. The chair for this event is Peggy Walker, who also happens to be the Mid-States Region representative to the Astronomical League. I have asked Jim Small to reach out to Peggy to speak at one of our upcoming meeting, in March to talk about the conference and answer any questions you may have. The website has been setup (<https://msral2020.wixsite.com/register4msral2020>) and registration should soon. Once this information is available, you will be notified accordingly if you decide to attend. Also, COVID-19 protocols will be followed. MSAL 2021 is COVID-19 Compliant. Large rooms for social distancing, means limited attendance. State school mask mandate, easy access to hand sanitizers. Conference and food service will be aligned with OK state guidelines in place in June 2021.

I am hoping that some of our newer members will be in attendance as this will be a fun and informative weekend. I hope to see you there.

Cook

**Be sure to check out MSRAL 2021, our regional conference to meet with other amateurs in the region! A great time will be had by all!**

**If you are new, ask members who have been around about the benefits of attending such a conference. It’s great to be with many other amateurs for the weekend!**



## **My New/Old Scope**

*by*  
**Jeff Carpentier**

I should first introduce myself as I have only been a member of SLAS for one year now and prior to that the only real telescope(?) I owned was the C90 Mak that I primarily used as a spotting scope and lunar viewing. I am an outdoorsman and love to hunt and fish perhaps that where my fascination with the moon comes from. I had been taught early how the Moon affects the environment as much as the Sun, which is another favorite of mine. Ever since I can remember my father told me to take science and math, which never ceases to intrigue and fascinate me. Numbers never lie and science like mankind is always evolving. Trying to stay brief and on topic, I have had a great career as an elevator mechanic with the International Union of Elevator Constructors Local 3 of St. Louis. Six months before I joined SLAS I had to retire from my career as an elevator mechanic due to disability. My neck has 3 vertebrae, and the low back has 5 vertebrae which are fused. What an awesome time to retire, right? Susan, my wife, and I made plans for our first trip. Oh, wait did someone say PANDEMIC! There went KC and any other plans for the apparent summer. As you can all probably discern by now that I had joined this wonderful Club at about the same time, and we had attended the last in person Star Party at the Jefferson College Observatory in 2020. I have not even been to an in person meeting yet, lol. I did get to experience Danville once this past year and can not wait to get back there, thank you Mr. Breedon. There is my brief introduction.



Now a year ago if anyone would have asked me what a Cave-Astrola was, my answer probably would have been 'I don't know, a piano?!' It has been a bit of an expensive Astronomy year/lesson in the Carpentier household and this year's Astronomy budget did not include any new scopes. Well due to Zoom update issues I arrived at the February meeting late, so missed the introduction of items available as well as the speaker. I was able to socialize some and that is when I was first introduced the Cave-Astrola that now sits in my garage, awesome! Mr. Small

had showed everyone left at the end the items he needed to remove from his dwelling (he is trying to keep things tidy



in there). I really wasn't interested in it, as I am really concentrating on shorter focal lengths for EAA and an F7 is right at the cusp although not so for AP. There was discussion about this telescope more so than any of the others, which led me to researching this Thomas Cave and Cave Optical of Long Beach California and that ended my evening.



The next morning after a couple of cups of java I emailed Jim regarding the Cave and well we pretty much know



where it ended up, right! I had been informed it had been recently recoated and it was a 70's era model. Even before I loaded the scope I noticed an embossed brass/bronze name plate without a zip code and it's appearance was dif-

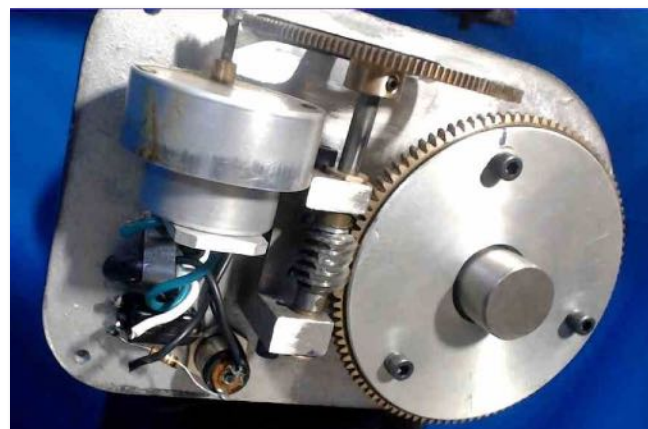
(Continued from page 4)

ferent from those I had researched online the evening before. As I began assembling it and comparing with those I could get pictures of online, it just did not look like it was from the 70's. Now it is not like I am some 'American Picker' or anything like that. I have been around for a little



bit and have seem quite a bit of change in a short time. I mean come on I never really thought we would all be able to have Dick Tracy watches!

I am a member of an awesome online site I am sure most of you have heard of or are members of as well, Cloudy Nights. This was an absolute gift from the Creator for I would not even been paying for another year in SLAS to say nothing about researching a Classic Telescope. In the forum of Equipment Discussion/Classic Telescopes I found the Cave Mirror Registry, maintained by Jon Miles, I registered the mirror with the information I found engraved on the side of the mirror, which again looked nothing like the other engravings online. The only engraving I could ever get from the mirror was 'Strauch Cave 3/76', kind of a let down as 1976 would have been toward the very end of the company. Well, the response back from Mr. Miles was even more concerning,



most important part of the dang thing (not losing sight of the secondary :-). Surely there was no doubt it was a Cave mirror? His next response was a little more gratifying. He first apologized as he had not seen my post on CN of the scope and that the riveted embossed bronze plate was definitely an indication it was a 1960's era scope, Oh yeah! His next questions were if I could send him some additional pictures of the mount as this would also help to possible nail the time period in which it was produced. Were the end rings riveted or pressed and if riveted were they ground down? He also mentioned the mirror originally were serialized very lightly on the backside and side serializing did not start until mid '60's. If you notice in the photos the rings are riveted and ground down. There is no zip code on the bronze riveted plate which indicates mid to late '60's and the plates were phased out for those newer fancy (not) glue on plates. I did everything he suggested



as 1976 was the recoat date. What exactly did recently recoated mean? I mean how often do you recoat a mirror? And who did the recoat? I could not answer any of those questions then and really can not with any certainty answer them now, although I have some surprisingly good ideals and indications thanks a lot to Mr. Miles and the Cave-Astola website. There are other contributions to my final analysis of this exceptionally fine optical piece and although not that experienced in this hobby/profession, I will say this thing gives my 9.25 Edge a run for the money!

Let us explain what we have been able to discern given what we know for sure as well as what we hypothesize. I responded back to Jon that if 1976 was the recoat, who did the recoat and what was the actual date of the mirror – the



and more looking for a serial number or any identifying marks on this mirror and '47FL' and 'Strauch Cave 3/76' is it! We responded back a few more times. The mount had obviously been repainted and he said if I could find any indication of the original paint that would help to pinpoint the production date down, although he had already come to the belief that it probably fell in the time period between





1961-1964. He had told me that he had more serial numbers for the years of 1960 and 1965 individually than he had for all the numbers from 1961 -1964 and mine was not the first one he had come across without a number. There was something going on at the company that they (those individuals like Jon Miles that gather, research, archive this information) have not been able to discover. Furthermore, Thomas Cave's daughter has refused to release any company records or information other what is already available. Things like sales records and such which would help in a case such as mine. In further identification of the mount, I was able to scrape paint from the actual mount as the pier seemed to have been sanded properly the mount was not. Machine Grey was the original paint this also indicated early mid '60's. Jon places the date in the '63-'64 range.

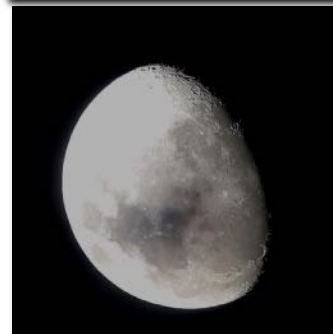
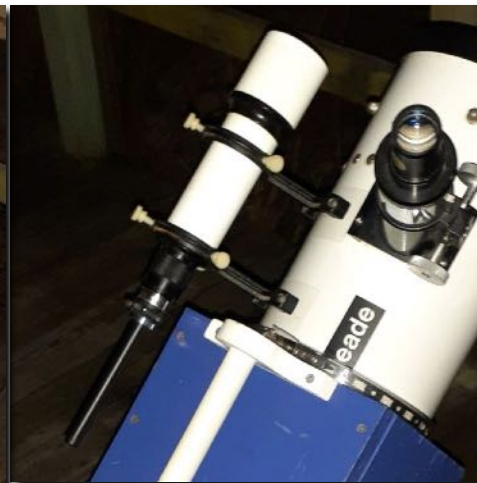
To sum it all up I have acquired a piece of Old School Telescope History that is a true visual delight and can not

wait to share with the other members of the Club! We believe it to be from the mid '60's (a bit of trivia I was born in 1962-how weird is that this scope and I could be the same age), believe the original owner to be Mr. Fred Strauch of Newport Beach California from paperwork found in Meade RA correction motor box from 1984 (his wife of 98 is still residing in that house!), who also may have had it recoated by Pancro as recently as 1976 (still in business just not recoating mirrors anymore), and the side-real motor works just had to replace the toggle switch, alt-



though I have no pictures from this scope yet I do plan to have some shortly. Did I mention the 8x30 original Unitron finder scope? Yes, it has one. Grateful for an excellent telescope as well as a true piece of this hobby's history!

Jeff Carpentier



**Above Left:** Meade 6" f5 reflector picked up at last month's telescope sale by Grant Martin. On the table is a Bauch and Lomb Criterion 4000 SCT

**Above Center:** Modification of the Meade to a dob using Lois Fitter's dob mount. The result is a wide field

scope useful for outreach or by beginners.

**Above Right:** Modification employing a laser pointer with the finder for easy aiming at the sky!

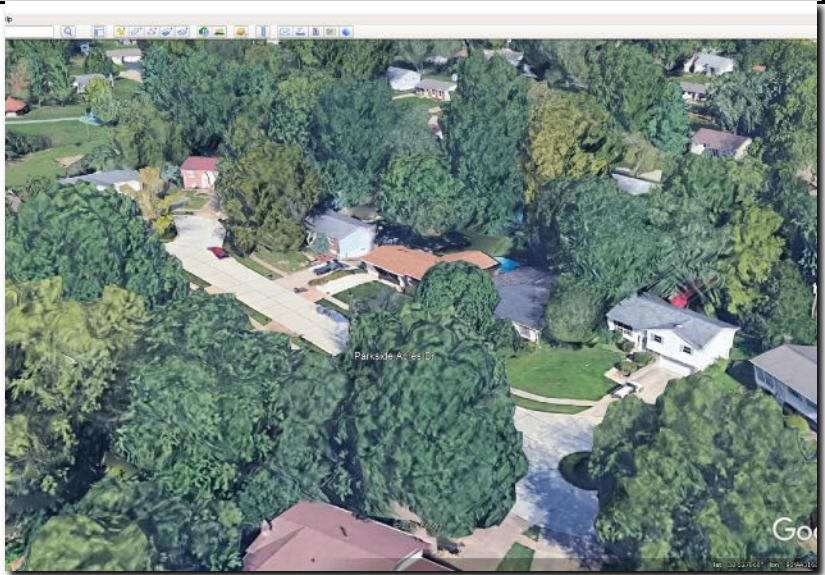
**Left:** Quick photo of the Moon through the Meade 6"

## **A Blast from the Past!** *by John Sullivan*

This isn't strictly an astronomy item, but the photo below is something that Vice-president Bradley Waller and I worked on back in the mid-1970's when we were spending our allowances on building and flying rockets. Someone who was doing the same thing at the time might recognize the device which produced this picture - an Estes Camroc rocket camera. I stumbled across the photo a few weeks ago when looking through some shelves of items in the

basement, and sent a scan of the photo to Bradley as a reminder of what we were doing back about 45 years ago.

We flew the rocket from Fenton City Park. Checking on Google Maps, my best guess is that the street shown in the foreground without any houses as yet is Parkside Acres Drive, with the street parallel to it and just behind it in the photo is Fury Drive. It looks very different now, with houses and trees on both streets. The second file attachment is my best guess from Google Earth what the view would be today from the point the first picture was taken. Just a little blast from the past,  
John Sullivan



## **Apologies for Past Weather Issues** *by Jim Small*

I was looking for a quick Alt-Az mount that could easily handle any of the scopes I have and had smooth handling and good weight capacity. I originally was looking into an Explore Scientific Twilight II mount I saw and moved around a bit to test that smoothness at Randy Harrison's Lookin' Up Optics store. I called him about it and he offered to sell it to me at a decent price. The big advantage, besides being smooth was it was two-sided, capable of handling two scopes side by side! I almost bought it. Randy called me later and said I should check out the Losmandy AZ8. I did, and oh what a good tip! He didn't have one in stock, but one look at it and I was sold. It can handle 35 pounds on EACH side OR it can handle just one scope. It has setting circles and has dual dovetails which can take either vixen or D size mount plates! No need to put new plates on your scope! In addition, it has nice slow motion controls and large knobs for tightening the clutch making it easy for gloved hands to adjust. The last feature is the 6" riser plate for the column. You may add as many as you like to increase the height of the column. I'll probably add one more riser to make it easier to handle the 4" f11 refractor pictured below. I couldn't find it in any of the online stores so I went to Losmandy.com directly. I got lucky and snagged the last unit in this batch. It's the best

place to go to pick one up. \$995 I'm looking forward to putting it to use in the field. The weather? Everyone knows buying new equipment ruins the weather for at least 2 weeks!

Sorry!  
Jim Small





**St. Louis Astronomical Society  
Devoted to the Interest and Advancement  
of the Science of Astronomy  
Executive Board Meeting Minutes 2/4/2021**

**1. Opening Activities** a. Attendance: Jim Small, John Newcomer, Larry Campbell, Brent Buch, Brad Waller, Mark Jones, Bill Poletti, Bill Winningham b. Open Meeting 7:04pm  
c. Approval of last month's meeting minutes. Motion to approve January minutes made by John N, Brent seconded motion. Minutes were approved by Board  
d. Next Board meeting date: Dates for 2021: Feb 4, Mar 4, Apr 1, May 6, Jun 3, Jul 1, Aug 5, Sep 2, Oct 7, Nov 4, Dec 2 Meetings will be via Zoom until further notice

**2. Upcoming General Membership meeting topics:**

a. **Speaker:** February Raymond E Arvidson, PhD Perseverance Rover Mission Mars 2020  
b. Zoom: Stay with 2020 Zoom links  
c. Speaker Press Release: Rich H sent out 2-4-2021  
d. A101: None planned  
e. Telescope sales Cave Astrola, Meade Newtonian, B&L Criterion 4000, 4" reflector, monolux refractor, 4 1/2" Meade Polaris Reflector  
f. NSN Outreach Awards – pins should be ready. Mark has certificates to send to Brad for printing

**3. SLAS Financial Report**

a. Balance Sheet: Reports sent out before the meeting  
b. Profit/Loss report. Income – net income \$520 YTD  
c. Annual Budget meetings – any modifications to the budget documents?  
d. New set of checks ordered  
e. Books for 2020 closed

**4. Speaker Committee** a. Budget - \$400

b. Jim Small sent 2 contacts for possible speakers to Brad  
c. Upcoming speakers:

SLAS Monthly Meetings		Presentations	2021 Sponsor
Month	Name	Topic	
19-Feb-2021	Raymond E Arvidson, PhD	Perseverance Rover Mission Mars 2020	Wash U
19-Mar-2021	K Michael Malolepszy	Probing the Sub-Microwave Universe Part III	SLAS
16-Apr-2021	Ian H Redmount, PhD	Cosmic Roller Coast	SLU
21-May-2021	Larry Bartoszek, PE	The Connection Between the Periodic Table and Astronomy	NSS
18-Jun-2021	Brad Jolliff, PhD	China's Exploration of the Moon: The Chang'e Missions	Wash U
16-Jul-2021	John Newcomer	Hiking on the Mountains of the Moon: The Voyage of Apollo 15	SLAS
20-Aug-2021	Robert Criss, PhD	Galactic Rotation & Dark Matter	Wash U
17-Sep-2021	Larry Bartoszek, PE	The Sloan Digital Sky Survey Telescope	?

**5. Membership Initiatives**

a. Budget - \$450  
b. Welcome Aboard Meetings  
c. Raffles – None planned  
d. Attendance prizes this month – none until March  
e. Brad proposed requesting more budget in order to buy 4 auto-graphed copies from November speakers to have a door prizes. Board suggested that we could offer raffle to defer the cost. Speakers giving 50% discount for possible SLAS fund raiser

**6. Membership Recognition**

a. Total Budget \$420  
b. NSN Outreach Awards: Pins should arrive in time for February meeting  
c. Membership Report: sent to board. Attached is the January 2021 membership report for SLAS showing 212 members. We are 33 members over the same time last year, an increase of 18%.

It you look at SECTION 2 of the report, you will see four growth periods over the last 10 years that correspond to significant events:

-Venus transit (6/5/2012) = + 6 members during the year  
-Library telescope program launch (11/10/2014) = + 24 members during the year

-2017 Total Solar Eclipse (8/21/2017) = + 26 members during the year  
-COVID-19 Pandemic (2020) = + 29 members during the year

d. Member anniversary awards – Held in November

e. New Award program - \$600 budget

1. Special Award Committee report: Plaques made and delivered to recipients. Still need to get perpetual award plaque made.

Chairman – Larry Campbell, Jim Small, Mark Jones, Cook Feldman, Sharon Bertram, Fred Schovanez, Bill Neubert

2. New Award Policy and nomination process – article for announcement of nominations for 2021?

3. Larry to set up meeting to review perpetual plaque design Submittal deadlines –

4. Nomination reviews: done

5. Award selection: done

6. Plaques purchased: done

7. Awards presented: done

**7. Outreach**

a. Budget - \$700

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: done

e. Upcoming outreach events: most events are online, 4 events for SLCL

f. Awards/recognitions – to be presented at February meeting

g. NSN Outreach hours YTD- In 2020, SLAS members volunteered for more than 75 events and logged 305 hrs for NSN events

**8. Old Business:** a. Training Program start a committee

**9. New Business:** MSRAL Attendance estimate requested by Peggy Walker. Jim to send out email blast or send NSN message asking for RSVPs

**10. Other Committee Reports: If needed**

**A. SLSC Business:** a. First Friday actions: None yet, Brad to contact Eric b. Other immediate business None

**B. SLCL Business:** a. Annual contract – On hold

b. Upcoming events – 4 virtual events planned

**C. Jefferson College Business:** a. Committee Meeting report: Observatory update. Excavation started

b. Upcoming Outreach Event: Virtual event Sunday, Dec 6

**D. Library Telescope Committee** a. Budget – \$300 b. Upcoming builds or maintenance events c. Maintenance budget - \$100 d. Mileage re-imbursement –see above. Promotional materials - \$200

**E. SLAS Social Events** a. Budget - \$300 b. Homemade Fest - \$100 budget. Mark J to contact EMDSO about joint event outdoors c. Star-B-Q - \$200 budget

**Other**

**F. SLAS Brochures** a. Budget \$200 b. Quarter cards On hold we have enough 2020 stock

**G. Loaner scope Program** a. Budget - \$100 b. New donations c. Replacement Parts for the LPTs - d. Items for sale – See list above

**H. SLAS Library** a. Budget - \$500 b. Other

**I. Merchandise – No activity**

**J. Telescope Making**

**K. Newsletter** a. Budget \$600 b. Jim S bought Publisher \$139

**L. Website** a. Budget \$690

**M. Social Networking** Public Facebook page 1,452 followers, Private FB page 64 members

**N. Night Sky Network**

**O. SLASdialogs**

**P. Dark Site**

**Q. Observing Programs**

**R. Star Parties Donation: |**

**11. Closing Activities** Motion adjourn by Mark, second by Brad. Meeting adjourned at 8:47pm



**St. Louis Astronomical Society**  
**Profit & Loss Budget vs. Actual**  
January through February 2021

	Jan - Feb 21	Budget	\$ Over Bud...
<b>Ordinary Income/Expense</b>			
Income			
Events Income	680.00		680.00
Magazine Subscription			
Astronomy Magazine Sa...	340.00	272.00	68.00
Sky & Telescope Sales	395.55	329.50	66.05
Total Magazine Subscripti...	735.55	601.50	134.05
Membership Dues	845.00	835.00	10.00
Total Income	2,260.55	1,436.50	824.05
Cost of Goods Sold			
Magazine Subscriptions	691.55	567.50	124.05
Merchandise			
Inventory Adjustment	85.92		
Total Merchandise	85.92		
Total COGS	777.47	567.50	209.97
Gross Profit	1,483.08	869.00	614.08
Expense			
1-Programs & Events	341.68	396.00	(54.32)
2-Newsletter	183.99	250.00	(66.01)
3-Library expense	26.80	100.00	(73.20)
5-Loaner Scopes		25.00	(25.00)
6-Brochures		50.00	(50.00)
8-Website	179.40	400.00	(220.60)
9-Administrative Expenses	101.11	109.00	(7.89)
Total Expense	832.98	1,330.00	(497.02)
Net Ordinary Income	650.10	(461.00)	1,111.10
Other Income/Expense			
Other Income			
Donations	90.00		90.00
Interest Income	6.32	8.00	(1.68)
LTP Receipts	10.00		10.00
Total Other Income	106.32	8.00	98.32
Net Other Income	106.32	8.00	98.32
Net Income	756.42	(453.00)	1,209.42

**St. Louis Astronomical Society**  
**Balance Sheet**  
As of February 28, 2021

	Dec 31, 20	Feb 28, 21
<b>ASSETS</b>		
Current Assets		
Checking/Savings		
Checking - First Bank	7,587.88	8,630.43
Deposit, Certificate of	15,925.53	15,931.21
Library Telescope Escrow	1,206.41	1,216.41
PayPal	747.44	530.91
Savings - First Bank	41,145.74	41,146.38
Total Checking/Savings	66,613.00	67,455.34
Other Current Assets		
Inventory Asset	761.53	675.61
Total Other Current Assets	761.53	675.61
Total Current Assets	67,374.53	68,130.95
Fixed Assets	15,336.00	15,336.00
<b>TOTAL ASSETS</b>	<b>82,710.53</b>	<b>83,466.95</b>
<b>LIABILITIES &amp; EQUITY</b>		
Equity		
Opening Bal Equity	8,497.66	8,497.66
Retained Earnings	72,581.69	74,212.87
Net Income	1,631.18	756.42
Total Equity	82,710.53	83,466.95
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>82,710.53</b>	<b>83,466.95</b>

**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](mailto: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.**  
Apr 1, May 6, Jun 3, Jul 1, Aug 5, Sep 2, Oct 7, Nov 4, Dec 2

### **Dark Sky Observing Dates**

Apr 10, May 8, Jun 5, Jul 10, Aug 7, Sep 4, Oct 2, Nov 6, Dec 4

**Francis Park Events:** These events are on Wednesdays of the week nearest the first quarter Moon  
On hold until further notice due to Covid 19

**Sky Orienteering Events** For members who want to gather and do some relaxed observing at Babler State Park Mar 14, Apr 11

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  
On hold until further notice due to Covid 19

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

**Broemmelsiek Astronomy Park Public Viewing**  
Every Friday by appt

**UMSL Observatory**  
For directions and map  
<http://www.umsi.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**

### **March**

**19 Fri  
22 Mon  
25 Thur**

**SLAS Regular Meeting  
Constellation Tour 37  
SLAS New Member Zoom  
MCSS Lecture**

### **April**

**1 Thur  
5 Mon  
10 Sat**

**SLAS Board Meeting  
Constellation Tour 38  
NEAF 2021  
SLAS Dark Sky Viewing  
SLAS Sky Orienteering  
Constellation Tour 39  
Manchester Parks - Schroe  
SLAS Regular Meeting  
Constellation Tour 40  
Bridgeton Night Under the Stars**

### **June**

**4-6**

**MSRAL Conference - Broken Arrow, OK**

**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 [www.headznthreadz.com](http://www.headznthreadz.com)

**There is now only one location:**

1065 Regency Parkway, St. Charles MO 63303

Telephone: 314.528-8100

[sales@headznthreadz.com](mailto:sales@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 [www.Infini-tees.com](http://www.Infini-tees.com)**



# SLAS MEMBERSHIP APPLICATION

Name: Last \_\_\_\_\_  
 First, Middle Initial \_\_\_\_\_  
 Address \_\_\_\_\_  
 City, State, Zip Code \_\_\_\_\_  
 email address \_\_\_\_\_



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* @ \$43.95 / 1 year \$ \_\_\_\_\_

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

*Astronomy* @ \$34.00 / 1 year \$ \_\_\_\_\_

**TOTAL ENCLOSED** \$ \_\_\_\_\_

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

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)* 636-357-2763  
 treasurer at slasonline.org

**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 slasonline.org

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

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

**Newsletter Editor** *Jim Small* 314-909-7211  
 newsletter at slasonline.org

**Observing Programs** *Mark Jones* 636-394-2342  
 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

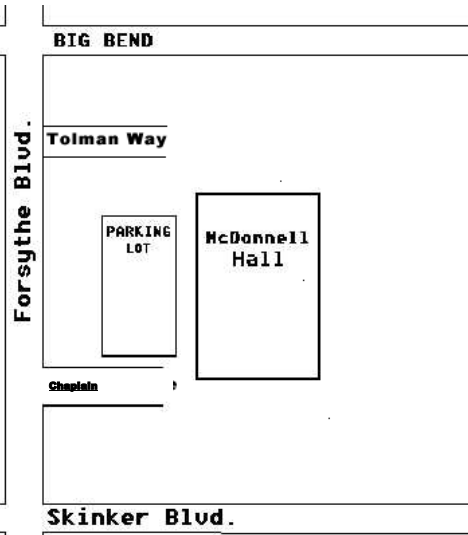


### **Who We Are and What We Do**

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 anyone 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**

Jim Small  
13128 Cozyhill Drive  
St. Louis, MO 63122